

**EAST COAST RAILWAY
SAMBALPUR DIVISION**

STATION WORKING RULES OF LAPANGA STATION (CODE: LPG)

BG/MG/NG: Broad Gauge

Date of issue:-25.05.2020

Date brought into force:-

NOTE: -

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

1. STATION WORKING RULE; -

1.1 **STATION WORKING RULE DIAGRAM NO.** SI/WRD – 22102, Alt-K'

1.2 **SIGNAL INTERLOCKING PLAN NO.:** - S.I – 22102, Alt-'K'

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

2. DESCRIPTION OF STATION: -

LAPANGA is an Eight-line station situated in Jharsuguda-Sambalpur section at KM 529.454 (529/23-25(UP), 529/24-26(DN) from HWH & 15.600 km from JSG JN. It is Standard – II (R) interlocked Class 'B' station with EI and having Absolute Block System of Working. LVCD axle counters at either ends have been provided at the station for last vehicle check.

2.1 GENERAL LOCATION:-

- | | | |
|----|-----------------------------|--|
| a) | Name of the station | : LAPANGA (LPG) |
| b) | Class of station | : 'B' class |
| c) | Section | : Sambalpur Jn.–Jharsuguda Jn, |
| d) | Double line/Single line | : BG, Double line |
| e) | Electrified/Non Electrified | : Electrified |
| f) | Railway | : East Coast Railway |
| g) | Route | : 'D' Special |
| h) | Situated at | : KM (529/23-25(UP), 529/24-26(DN) |
| i) | Reckoned from | : Howrah |
| j) | Number of cabins | : NIL |
| k) | PI/EI | : EI with two VDU Terminal (One VDU is working and other as stand by). |

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

- i) Jharsuguda Jn end - BPSL Block Cabin inter distance 5.127 K.M.
- ii) Sambalpur end - RENGALI (Code: RGL) inter distance 10.901 K.M.
- iii) Passenger Halt: - Nil
- iv) Flag station: - Nil
- v) Outlying siding: - Nil

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- 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 LPG- BPSL Block Cabin (UP Line)	BSLB of LPG Station on UP Line	UP Starter Signal No.07 of BPSL Block Cabin.
Between LPG- BPSL Block Cabin (DN Line)	DN Advanced starter signal No.46 of LPG.	BSLB of BPSL Block Cabin on DN line.
Between LPG-RGL (UP Line)	UP Advanced starter signal No.45 of LPG.	Outermost point No 21 of RGL Station on UP Line
Between LPG-RGL (DN Line)	Outermost point No 52 of LPG Station on DN Line.	DN Advanced Starter Signal No.18 of RGL Station.

2.3.1 STATION SECTION:

The portion in between BSLB and UP Advanced starter signal No 45 on UP line and further, the portion between DN Advanced starter signal 46 & outer most point No. 52A on DN line is the station section of LAPANGA station.

2.3.2 STATION LIMIT:

The portion between DN Distant signal and DN Advanced starter signal No-46 on DN line and the portion between UP Distant signal & UP Advanced starter signal No.45 on UP line is station limit of the Station.

2.4: GRADIENT: -

(a) FROM THE CENTER OF STATION BUILDING TOWARDS RENGALI (UP & DN LINE)

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0	81.00	81.00	1 in 600 R
81.00	321.00	240.00	LEVEL
321.00	1193.00	872.00	1 in 400 F
1193.00	2061.00	868.00	1 in 150 F
2061.00	2161.00	100.00	LEVEL
2161.00	3661.00	1500.00	1 in 300 R
3661.00	3781.00	120.00	LEVEL

(b) FROM THE CENTER OF STATION BUILDING TOWARDS BRUNDAMAL(UP & DN LINE)

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0	819.00	819.00	1 in 600 F
950.00	2879.00	1929.00	1 in 150 R
2879.00	3465.00	586.00	1 in 274 F
3465.00	Block Section	---	1 in 175 F

(c) FROM THE CENTER OF STATION BUILDING TOWARDS M/S Aditya Alumina (RGL end)

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0	81.00M	81.00M	1 in 600 R
81.00M	321.00M	240.00M	LEVEL
321.00M	1193.00M	872.00M	1 in 400F
1193.00	SIDING	----	LEVEL

(d) FROM THE CENTER OF STATION BUILDING TOWARDS M/S Aditya Alumina (BXQ end)

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0	819.29	819.29	1 in 600 F
819.29	SMEILTER YARD	----	1 in 382.50 F

2.5 LAY OUT: -

- i) No. of running lines :- 8 (Eight)
- ii) No. of sidings :- 7 (Seven)
- No. of Passenger platform :- 04 (Four), One high level Island Platform of dimension 400M X 18.50M between Line No.-3 & Line No.4 another high level Island platform of dimension 400m X 9.50M between Line No. - 5 &6.
- iv) No. of goods shed platform :- 02(Two) Rail Level Island Goods platform of dimension 650M X 20m between Line No.7 & Line No.8 .
- v) FOB- :- One FOB at CH 85.00M.

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

DESCRIPTION	CSL	ISOLATION PROVIDED	
		TOWARDS BXQ	TOWARDS RGL
Line No.1 (Common Loop)	705 mtrs. (Str. to Str)	DS	DS
Line No.2 (Common Loop)	711 mtrs. (Str. to Str)	ORL	ORL
Line No.3 (Common Loop)	736 mtrs. (Str to Str)	ORL	ORL
Line No.4 (DN MAIN)	707 mtrs. (Str to SH)	----	---
Line No.5 (UP MAIN)	715 mtrs. (Str to SH)	---	----
Line No.6 (Common Loop)	731 mtrs. (Str. to Str)	ORL	ORL
Line No.7 (Common Loop)	731 mtrs. (Str. to Str)	ORL	ORL
Line No.8 (Common Loop)	701 mtrs. (Str. to Str)	DS	DS

(II) DIRECTION OF MOVEMENTS: -

- a. Trains arriving from BRUNDAMAL are UP trains.
- b. Trains arriving from RENGALI are DN trains.

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2.5.2 NON-RUNNING LINES AND CSL. –

Sl. No.	Description	CSL	Takes off from	Exit	Operation
1.	Shunting Neck at RGL end	65.0M (SH to SB)	Line No. 7	One way	Controlled by Shunt signal operated from VDU.
2.	Shunting Neck at BXQ end	81.50 M (SH to SB)	Line No. 6	One way	Controlled by Shunt signal operated from VDU.
3.	Sick Line at JSGR end.	97.1M (SH to SB)	ORL of Line No.2	One way	Controlled by Shunt signal operated from VDU.
4.	M/s BPSL siding Ltd.	----	Line No.3	One way	Controlled by Shunt signal operated from VDU.
5.	M/s Aryan Ispat Ltd.Siding.	----	ORL of Line No.3	One way	Controlled by Shunt signal operated from VDU.
6.	M/s Aditya Aluminium Siding (MGR).	----	ORL of Line No.7	One way	Controlled by Shunt signal operated from VDU.
7.	M/s Aditya Aluminium Siding (Smelter Yard).	----	ORL of Line No.7	One way	Controlled by Shunt signal operated from VDU.

(i) SHUNTING NECK (RGL END):-

The Shunting neck of CSL 65M (SH to SB) takes off from ORL of line No.7 with single side entry and exit at RGL end of the yard. It is isolated by DS point No. 72 which is operated from the VDU. Shunt signals SH-10(A-E) are provided for shunting movement from the shunting neck to line No.4,5,6,7 & 8. Shunt signals SH (19, 21, 23, 25, 27) B are provided in the yard on line Nos.8,7,6,5 and 4 respectively for shunt movement into the shunting neck. In case of failure of shunt signals, points on the route are to be set, clamped and padlocked before any shunting movement is carried out in the shunting neck.

(ii) SHUNTING NECK (BXQ END):-

The Shunting neck of CSL 81.5M (SH to SB) takes off from extended portion of the ORL of Line No.6 with single side entry and exit at BXQ end of the yard. It is isolated by DS point No. 63 which is operated from the VDU. Shunt signals SH-9(A-D) are provided for shunting movement from the shunting neck to line No.8,7,6 & 5. Shunt signals SH (28, 30, 32, 34) B are provided in the yard on line Nos.5, 6, 7 & 8 respectively for shunt movement into the shunting neck. In case of failure of shunt signals, points on the route are to be set, clamped and padlocked before any shunting movement is carried out in the shunting neck.

(iii) SICK LINE :-

The Sick line of CSL 97.1 mtrs (SH to SB) takes off from ORL of line No.2 with single side entry and exit at BXQ end of the yard. It is isolated by point No. 83 which is operated from the VDU. Shunt signals SH-13(A,B) has been provided for shunting movement from the sick line to line No.1& 2. Shunt signal SH (20, 22) A has been provided on line No.1 &2 in the yard for shunting movement into the sick line. In case of failure of shunt signals, points on the route are to be set, clamped and padlocked before any shunting movement is carried out in the Sick line.

(iv) M/s BPSL Ltd siding:-

The BPSL Ltd siding takes off from extended portion of line at the end of ORL of line No.3 with single side entry and exit at BXQ end. The siding is isolated by ORL and also, an additional DS point No.101 has been provided beyond L.C.gate No.JT-7 to isolate the siding and to protect the L.C.gate. Above points are operated by the SM on duty from the VDU. Shunt signals SH-7(A-D) has been provided at DS point No.101 for admission of a train from BPSL siding to line No.1, 2,

3, 4. Shunt signals SH-(20, 22) B and SH (24, 26) A have been provided on line No.1, 2, 3, 4 respectively in the yard for dispatch of trains to the BPSL siding. In case of failure of shunt signals, points on the route are to be set, clamped and padlocked before reception/dispatch of trains from/to siding through shunt movement. After movement towards or from siding is completed siding point 101 DS is to be kept normal position by on duty SM to protect the yard and level crossing gate. (Siding rules is issued separately).

(v) **M/s Aryan Ispat Ltd.Siding:-**

The Aryan Ispat Ltd siding takes off ORL of line No.3 with single side entry and exit at RGL end. The siding is isolated by ORL. The take off points are operated by the SM on duty from the VDU. Shunt signals SH-8 (A-C) has been provided for admission of a train from AIPL siding on line No.1, 2, 3. Shunt signals SH-(29, 31, 33) B have been provided on line No.3, 2, 1 respectively in the yard for dispatch of trains to the AIPL siding. In case of failure of shunt signals, points on the route are to be set, clamped and padlocked before reception/dispatch of trains from/to siding. After movement towards or from siding is completed siding point 56 is to be kept normal position by on duty SM to protect the yard and level crossing gate. (Siding rules is issued separately)

(vi) **M/s Aditya Aluminium Siding (MGR):-**

The Aditya aluminium Ltd siding (MGR) takes off from extended portion of line connecting shunting neck and ORL of line No.7 with single side entry and exit at RGL end. The siding is isolated by ORL. The siding take off points are operated by the SM on duty from the VDU. Shunt signals SH-12 (A-E) has been provided on the siding line for admission of a train from Aditya Aluminium siding to line No.4, 5,6,7,8 of LPG yard. Shunt signals SH-(19, 21, 23, 25, 27) A have been provided on line No.8, 7,6,5,4 respectively in the yard for dispatch of trains to the Aditya aluminium siding. In case of failure of shunt signals, points on the route are to be set, clamped and padlocked before reception/dispatch of trains from/to siding. After movement towards or from the siding is completed siding points 74 A/B are to be kept normal position by on duty SM to protect the yard and level crossing gate. (Siding rules is issued separately)

(vii) **M/s Aditya Aluminium Siding (Smelter Yard):-**

The Aditya Aluminium Ltd siding (Smelter Yard at BXQ end) DN line takes off from extended portion of line connecting ORL of line No.7 with single side entry. The UP line of the siding is connected to line No.-7 by crossover point No.s 61 and 67. The UP line of the siding is isolated by ORL and DN line of the siding is isolated by DS point No.-59. The siding take off points in the yard are operated by the SM on duty from the VDU. Shunt signals SH-11 (A-D) has been provided on the siding UP line for admission of a train from Aditya Aluminium siding to line No.8, 7, 6, 5 of LPG yard. Shunt signals SH-(28, 30, 32, 34) C have been provided on line No.5, 6, 7, 8 in the yard for dispatch of trains to the Aditya Aluminium siding respectively. In case of failure of shunt signals, points on the route are to be set, clamped and padlocked before reception/dispatch of trains from/to siding. After movement towards or from the siding is completed siding points DS59, 67A/B and 61A/B are to be kept normal position by on duty SM to protect the yard and level crossing gate. (Siding rules is issued separately)

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

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

Sl. No.	Location	K.M.& No.	Normal Position	Class	Type	Operation	Communication
1	Between DN Starter and DN Advanced Starter signals.	528/27-29(UP), 528/28-30(DN) (JT-07)	Open to road traffic	'B2'	Inter locked	Electrically operated lifting barriers	Magneto Telephone connection with SM/LPG

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2.7 LEVEL CROSSINGS: (IN BLOCK SECTION)-

Sl. No	Location	K.M.& No.	Normal Position	Class	Type	Operation	Communication
1.	Between BPSL Blcok Cabin-LPG	526/19-21(UP),526/20-22(DN) (JT-6)	Open to road traffic	'B2'	Inter locked	Electrical operated lifting barriers	Magneto telephone with SM/LPG
2.	Between RGL-LPG	537/23-25(UP),537/24-26(DN) (JT-13)	Open to road traffic	'A'	Non-Interlocked	Winch operation lifting barriers	Magneto telephone connection with SM/RGL

Approach Warning is provided for B2 class L.C.Gate No-JT-06 at 526/19-21(UP),526/20-22(DN) in between RGL-LPG.

(Working of Level Crossing Gates is given in detail in appendix 'A')

3. SYSTEM AND MEANS OF WORKING:-

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

- i) **System of working-** : - Absolute Block system.
- ii) **Type of block instrument-** :- DLBI for LPG-BPSL Block Cabin & LPG-RGL sections.
- ii) **Instrument-** : - Non-Co-operative type.
- iii) **Block Telephone-** :- Provided with respective block instruments of LPG-BPSL Block Cabin & LPG-RGL sections.
- iv) **Staff responsible for their operations-** : - S.M. on duty.
- v) **Custodian of keys-** : - S.M. on duty.
- vi) **In Motion Weigh Bridge** :- An IMWB is provided at CH 110m from CSB on line no.7 at RGL end for weightment of loaded trains.

4. SYSTEM OF SIGNALLING AND INTERLOCKING: -

4.1.1 **STANDARD OF INTERLOCKING AND TYPE OF SIGNALLING:** This Station is provided with Standard-II (R) Electronic Interlocking with Multiple Aspect Colour signals. The Home signals and Advanced Starter signals are interlocked with respective block instruments.

4.1.2 TYPE OF SIGNALS:

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

- a) **Minimum equipment of signal-** Distant, Home, Starter and Advanced starter signals in either direction.
- b) The Station is provided with **central Electronic Interlocking (EI)** and having no end cabins. All signals and points are electrically operated from the VDU provided in SM's Office.
- c) **Method of operation:**

VDU one as working other as standby are provided in the Station Master's office to electrically control all signals and points. (The details of operation from VDU is given under Appendix-'B')

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

I. **TRACK CIRCUIT: -**

All the lines including point zones between Home and Advanced starter signal on either direction are 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 'yellow' when the line is clear provided the route is set. (Detailed track circuits given in appendix-B)

II. **AXLE COUNTER:**

Block sections LPG-BPSL Block Cabin & LPG-RGL are monitored by axle counter system, digital axle counters have been provided at both end of the station. A pair of digital axle counter is provided between LAPANGA & BPSL Block Cabin (beyond advanced starter of LAPANGA & 180mtr beyond Home signal of BPSL Block Cabin on DN Line), another pair of digital axle counter is provided for UP line of LAPANGA- BPSL Block Cabin (beyond starter signal of BPSL Block Cabin & 180m beyond Home signal of LAPANGA on UP Line), for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train. Provision of HASSDAC in lieu of Berthing track circuits (L7T1+L7T2+L7T3) on line No.7, for checking clearance of the line.

Similarly, a pair of digital axle counter is provided between LAPANGA & RENGALI (beyond advanced starter of LAPANGA & 180m beyond Home signal of RENGALI on UP Line), another pair of digital axle counter is provided for DN line of LAPANGA-RENGALI (beyond advanced starter of RENGALI & 180m beyond Home signal of LAPANGA on DN Line) for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train. Also a pair of digital axle counter is provided between LPG and M/S ADITYA ALUMINIUM siding (MGR) from shunt signal to shunt signal for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the siding line is clear of trains as well as to verify the last vehicle of the incoming train.

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

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

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

f) **Calling-on signals:**

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

g) **IBS Signal- NIL**

h) **STATION MASTER'S OPERATING PANEL: -**

The Station is provided with central Electronic Interlocking (EI). All signals and points are electrically operated from the VDU provided at SM's Office. A stand by VDU is also provided to

switch over the system in case of failure of working VDU. Calling-on signals are provided below Home signals (i.e. in both UP & DN directions). The VDU in Station Master's office electrically controls all signals, points, Gate key, etc., The VDU is provided with SM's key, user name and password which shall always remain in the personal custody of the Station Master on duty in terms of SR 3.36.03(a).

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

4.1.3 **CRANK HANDLE**

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

CRANK HANDLE		CONTROL POINTS
CH-1	-----	52,60,88.
CH-2	-----	64.
CH-3	-----	56,58,62,66,68
CH-4	-----	80,86.
CH-5	-----	76,82.
CH-6	-----	72,74,78,84.
CH-7	-----	51, 57.
CH-8	-----	69,89,95.
CH-9	-----	63, 71.
CH-10	-----	65, 93.
CH-11	-----	59,61,67,91,97.
CH-12	-----	79,85
CH-13	-----	53,75,77,81,101
CH-14	-----	83, 87

These crank handle keys are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle key can be released by SM by tracking the mouse pointer on the concerned crank handle button icon. This will enable two options to be displayed on the menu i.e. Crank handle Transmit control and Crank Handle Release control. To release the crank handle key, SM should click the Crank handle 'TRANSMIT' control option. After transmission, the KEY IN indication will start flashing, now the key can be extracted from the EKT. After extracting the key from the EKT, the KEY IN indication will disappear. When the keys are taken out no signal can be taken "OFF" over the particular route on the points nominated by that Crank Handle. This key can be electrically transmitted to both ends locations of the yard for manual operation of the defective points.

SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency Crank handle register shall be maintained by the SM on duty at the station as per Para 2.19 of the Operating Manual. Correct setting, clamping and padlocking of the points devolve on the SM on duty. The cases of failure of motor point should be promptly reported to the concerned signal maintainer/SSE (Signal) for immediate rectification.

4.1.4 **CALLING-ON SIGNAL:**

Miniature colour light Calling-on signal is provided below the Home signals in terms of GR.3.13 (6) (b). A Calling-on signal shows no light in the 'ON' position and Yellow light when taken "OFF". A calling-on signal, will be taken 'OFF' for reception of a train when the Home signal

above it cannot be taken 'OFF' due to failure or any other reason or for admission of train on blocked line and for shunting purpose. Before taking 'OFF' Calling on signal during failure of track circuit the route and clearance of the track over which the train will be admitted must be checked physically by SM on duty.

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal, occupying the track circuit in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be set by selecting the desired route and SM on duty shall left click on the same after a train occupies the approach track circuit in rear of the Home signal. The Calling-on signal is cleared after a lapse of 60 seconds i.e. a Yellow light glows at the concerned Calling-on signal on the VDU. Each such operation shall be recorded by the SM on duty along with the reasons to do so. The calling-on signal route can be released after complete arrival of the train or by emergency cancellation.

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

4.1.5 **SHUNT SIGNALS:**

Shunt signals below starter signals have been provided and independent shunt signals SH 28 on UP main line and SH 27 on DN main line have been provided for forward shunt movement. Shunt signals SH-5 (A-H), SH-6 (A-H) have been provided for back shunting purpose. Shunt signals SH-13 for sick line, SH-9 (A-D) for shunting neck at BXQ end, SH-10 (A-E) for shunting neck at RGL end have been provided for shunting. Shut signals SH8 (A-C) at RGL end for M/s Aryan Ispat siding, SH-12 (A-E) at RGL end for M/s Aditya Aluminium siding (MGR), SH 7(A-D) at BXQ end for M/s Bhusan siding and SH 11 (A-D) at BXQ end for M/s Aditya Aluminium Smelter yard have been provided for admission of trains from concerned sidings to station yard.

Shunt signals below starter signals are provided for dispatch of trains to concerned sidings at both ends. Shunt signals SH (19,21,23,25,27) A are controlled by slot No-49 of Aditya power plant and Shunt signal of Aditya aluminium (MGR) Inplant siding is controlled by slot No-50 of station station.

4.1.6 **POINT AND TRAP INDICATORS:-** : -NIL

4.1.7 **REPEATING SIGNAL (ELECTRIC/BANNER TYPE):-** NIL

4.1.8 **EMERGENCY CROSS OVER** :- NIL

4.1.9 **L.C. GATE OPERATION** :- (Given in Appendix A)

4.1.10 **ANTI COLLISION DEVICE** : -NIL

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

Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit. If such operation is necessary, the SM on duty shall ensure that no vehicle is standing on the concerned point track circuit. Then Emergency Point Operation Key is to be made "KEY IN" by clicking the 'KEY IN' menu. The user name and password is to be logged in. Track the pointer to 'EMERGENCY NORMAL/REVERSE' menu and click. A NORMAL/REVERSE flashing indication will appear and the indication will be steady after the point is set to Normal or Reverse. This action will be recorded in a counter. The counter will increase by next number for each and every such operation and also, this number should be recorded by the SM on duty who shall record the details of the Emergency Point Operation along with the latest counter no. in the concerned register and SM's diary.

After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu. The user name and password is to be given for "KEY OUT" also.

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

The Electronic interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally, the route is released by the passage of the train over the route. When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), the concerned signal must be put back to danger.

When the route is set and the signal taken-off, click on the signal. After clicking by the left button on the mouse, a pop-up menu will appear. Click on the cancellation menu (Main/ Calling on) of the concerned signal, the signal will immediately go to 'ON' position. After doing so, click on the Route release menu the route locked indication will starts flashing for 120 sec & the Emergency Route Release Indication (UP / DN as the case may be) will flash for the entire time interval. After the completion of 120 sec, the locked route will be released. This action will be recorded in a counter. The counter number will increase to next higher number for each and every such operation and also, this number should be recorded by the SM on duty who shall record the details of the Route cancellation along with the latest counter number in the register and SM's diary.

In case the route is not released, the concerned S&T staff should be advised for rectification of fault, if any.

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

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

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

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

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

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

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

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

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

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

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

4.3 POWER SUPPLY: - Power signaling and interlocking installations and the ancillary field units are fed from the following sources of power supply.

- i) CLS power panel with rotary change over switch is provided in the SM's office with the three power supplies viz UP AT, DN AT and local power supply for changing the switch to the required supply position. Luminous indicator's are provided above the circuit breaker for each supply to indicate the availability of the supplies.
- ii) Normally the rotary switch will be kept towards UP AT or DN AT position. Whenever the power block is to be given on the line, the on duty SM must ascertain the power is available on the other AT e.g if power block is to be given on the UP line, DN AT must be available and vice versa.
- iii) During the non-availability of both the AT supplies SM on duty shall keep the rotary change over switch towards the local supply to feed available local supply to the Installation.
- iv) In case of failure of one of the AT supply without any power block, on duty SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is UP and when tripped, it goes DN). In case of failure of both AT supplies, the local supplies shall be utilized by operating the switch. If the circuit breaker is tripping,

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even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEEE/GEN and CTFO/PSI/TRD/GEN for prompt rectification.

- v) For IPS system that provides to PI, auto-change over has been provided.
- vi) There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

REMOTE MONITORING ASM BOX:

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

- a) 50% DOD (Depth of Discharge) of Battery. In this condition Audio/Visual alarm comes which can be acknowledged with audio cut off.
- b) 60% DOD (Depth of Discharge), which warns for emergency. The Alarm for this condition is same as for condition 1.
- c) 70% DOD (Depth of Discharge), which signals system, shut down. In this condition Signal feed cut off and all DC-DC converters continue working. Audio alarm will continue till power supply restored.
- d) Any of the Module fails, which calls for "Call S&T".
- e) Whenever there is a failure of power supply in one AT, the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of power supply on both AT's and make an entry in station diary duly initiating action for rectification of failure, if any.

5.0 TELECOMMUNICATION FACILITIES: -

- (i) Telephone attached with Double line 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 has been 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.
- (viii) Telephone is provided between Station and L.C.Gates at KM 528/27-29(UP), 528/28-30(DN) & Km.526/19-21(UP), 526/20-22(DN).
- (ix) Telephone connection is provided between Station and M/S Bhusan Steel Plant Siding, M/S AIPL siding and M/S Aditya Alumina siding.
- (x) Telephone is provided between SM and TPC.

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

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

5.1 FAILURE OF COMMUNICATION: -

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 between the adjacent block stations the SM on duty shall work vide SR 6.02.06. In the event of total failure of communications between LPG- BXQ and LPG-RGL SR 6.02.03 shall be observed for working the trains.

(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

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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 the station to work in each shift.

SL. NO.	DESIGNATION	ROSTER	NO. OF STAFF IN EACH SHIFT	HRS. OF DUTY
1.	Station Superintendent (in-charge) ----- SS/SM-----	-Excluded -Continuous	01	08 hrs.
2.	TPM-B/ TPM-A	Continuous	02	08 hrs.
3.	Gate Keeper	EI	01	12 hrs.

The above staff shall work as per the rosters issued by Sr.DPO/SBP from time to time and these rosters shall be conspicuously 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 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 SMR 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 (In- Charge).

The declaration shall be renewed in the following cases: -

- Whenever there is a change in the Station Working Rules.
- 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: -

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

- The whole of the last preceding train has arrived complete inside the outermost facing point at RGL end and BSLB at BPSL Block Cabin end.
- All necessary signals have been put back to 'ON' behind the said train.
- The line is clear up to the outermost point 52A for DN trains & up to the BSLB for UP trains.

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NOTE-If the light of the reception signal is found not burning, line clear shall not be granted for train till such time it is ensured that concerned loco Pilot is notified of the fact in writing by the SM of the station to which such line clear is to be granted.[Ref GR:3.49(4),8.01(1)(a),(b), 8.01(2)(b),8.03(1),(a),(b),c(ii).

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

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

GR-5.10 & SR-5.10.1 to be followed.

6.2.1.3 **DESPATCH OF TRAINS FROM NON-SIGNALLED LINE**

GR-5.11 & SR-5.11.1 to be followed.

6.2.1.4 **DESPATCH OF TRAINS FROM LINE PROVIDED WITH COMMON STARTER SIGNAL**

Not Applicable

6.2.1.6 **SPECIAL RESTRICTIONS:**

- (I) While performing shunting at either end of the yard engine shall be leading towards the falling gradient.
- (II) GR 5.20 and SR's thereto shall apply at the station.

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

Reception of trains is governed by General Rule 3.36, 3.38, 3.40, 4.17, Subsidiary Rule 3.42.02 (a) (iv), 3.42.03, 3.36.02, 3.36.04 and other relevant provisions of General and Subsidiary Rules, Block Working Manual and Station Working Rules of the station to be followed. Adequate distances to be kept clear vide General Rule 3.40(3) (a) for reception of trains.

A. CLEARANCE OF ADEQUATE DISTANCE:-

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

Sr. No.	Line No.	UP TRAIN		DN TRAIN	
		FROM	TO	FROM	TO
1	Line No. 1	Foot of the UP starter signal No.33	Up to the end of DS 58	Foot of the DN Starter Signal No. 20	Up to the end of DS 75 or Up to Advanced starter signal No.46
2	Line No. 2	Foot of the UP starter signal No.31	Up to the end of DS 58	Foot of the DN Starter Signal No. 22	Up to the end of DS 75 or Up to Advanced starter signal No.46
3	Line No. 3	Foot of the UP starter signal No.29	Up to the end of DS 62	Foot of the DN Starter Signal No. 24	Up to the end of DS 77 or Up to Advanced starter signal No.46
4	Line No. 4	-----	-----	Foot of the DN Starter Signal No. 26	Up to Advanced starter signal No.46

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5	Line No. 5	Foot of the UP starter signal No.25	Up to the Advanced starter Signal No.45	-----	-----
6	Line No. 6	Foot of the UP starter signal No.23	Up to the end of ORL or Up to Advanced starter Signal No.45	Foot of the DN Starter Signal No. 30	Up to the end of DS 71
7	Line No. 7	Foot of the UP starter signal No.21	Up to the end of ORL or Up to Advanced starter Signal No.45	Foot of the DN Starter Signal No. 32	Up to the end of DS 91
8	Line No. 8	Foot of the UP starter signal No.19	Up to the end of DS 78 or Up to Advanced starter Signal No.45	Foot of the DN Starter Signal No. 34	Up to the end of DS 91

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

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

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

B. TAKING OFF CALLING ON SIGNAL

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal/Starter signal, occupying the track circuit in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be set by tracking the pointer in VDU on to the signal below which the calling on signal is provided. Various options in terms of the total routes over which the signal will lead to will appear on the menu. Then the SM must drag the pointer and click over the particular Calling- on route amongst the various options displayed in the menu by the left button of the mouse as a result of which the Calling-on signal will blink for 60 seconds. After a lapse of 60 seconds, the Calling-on signal below Home signal will clear. i.e., a White light glows at the concerned calling-on signal on the VDU. Every such operation has to be recorded by the on duty SM along with the reasons to do so. The calling-on signal route can be released after complete arrival of the train or by emergency cancellation.

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NOTE:

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

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

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

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

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

(i)	While receiving a DN train on Line No.1	Reception of an UP train on Line No.L5/L6/L7/L8 or dispatch of DN train from Line No. L3/L4/L6/L7/L8.
(ii)	While receiving a DN train on Line No.2	Reception of an UP train on Line No.L5/L6/L7/L8 or dispatch of DN train from Line No. L3/L4/L6/L7/L8.
(iii)	While receiving a DN train on Line No.3	Reception of an UP train on Line No.L5/L6/L7/L8 or dispatch of DN train from Line No. L4/L6/L7/L8.
(iv)	While receiving a DN train on Line No.4	Reception of an UP train on Line No.L5/L6/L7/L8
(v)	While receiving a DN train on Line No.6	Reception of an UP train on Line No.L1/L2/L3 or dispatch of DN train from Line No. L1/L2/L3/L4
(vi)	While receiving a DN train on Line No.7	Reception of an UP train on Line No.L1/L2/L3 or dispatch of DN train from Line No. L1/L2/L3/L4/L6
(vii)	While receiving a DN train on Line No.8	Reception of an UP train on Line No.L1/L2/L3 or dispatch of DN train from Line No. L1/L2/L3/L4/L6
(viii)	While receiving an UP train on Line No.1	Reception of a DN train on Line No.L6/L7/L8 or dispatch of an UP train from line No. L3/L5/L6/L7/L8.
(ix)	While receiving an UP train on Line No.2	Reception of a DN train on Line No.L6/L7/L8 or dispatch of an UP train from line No. L3/L5/L6/L7/L8.
(x)	While receiving an UP train on Line No.3	Reception of a DN train on Line No.L6/L7/L8 or dispatch of an UP train from line No. L5/L6/L7/L8.
(xi)	While receiving an UP train on Line No.5	Reception of a DN train on Line No.L1/L2/L3/L4.
(xii)	While receiving an UP train on Line No.6	Reception of a DN train on Line No.L1/L2/L3/L4 or dispatch of an UP train from line No. L1/L2/L3/L5.
(xiii)	While receiving an UP train on Line No.7	Reception of a DN train on Line No.L1/L2/L3/L4 or dispatch of an UP train from line No. L1/L2/L3/L5/L6.
(xiv)	While receiving an UP train on Line No.8	Reception of a DN train on Line No.L1/L2/L3/L4 or dispatch of an UP train from line No. L1/L2/L3/L5/L6.

6.5 COMPLETE ARRIVAL OF TRAIN: -

(Rule no. GR 4.16, SR 4.17.01, GR4.17.02, GR 14.10)

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

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

6.5.1 L.V. VERIFICATION THROUGH AXLE COUNTER: -

Entire block section at both sides of the station is monitored by axle counter system and the position of block section whether clear or occupied is indicated in the VDU. As soon as a train enters in to the block section, the 'RED' indication appears in the axle counter indication panel. After the whole train clears the block section, 'GREEN' indication appears on the axle counter

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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 in 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.

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

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

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

6.6 **DESPATCHING OF TRAINS: -**

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

To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly, close the traffic gates in the yard and satisfy himself by observing the visual indication on the VDU. Then he shall ensure closure of LC Gates in section, then he shall take "OFF" the concerned route starter and advanced starter signal. The 'OFF' aspect of the route Starter and Advanced starter is the authority to proceed into the block section.

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 Rule & safety circulars shall be followed.

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

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

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

6.7 **TRAINS RUNNING THROUGH: -**

a) The provision of GR 3.40, 4.17, 4.42 with relevant SRs and SR 3.42.02 (a)(iv) and other relevant provision of BWM shall be observed.

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

c) In every case in which trains are permitted to run through on a non isolated line, all shunting shall be stopped and no vehicle unattached to an engine or not properly

secured in accordance with rule 5.23 may be kept standing on a connected line which is not isolated from through line vide SR 4.11 (2).

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

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

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

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

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

6.8.2 TRACK CIRCUIT

In the event of failure of track circuit in the yard trains shall be admitted in to yard after piloting 'IN' before piloting a train in to the yard the clearance of the track must be ensured by physical verification.

6.8.3 AXLE COUNTER

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

6.8.4 DEFECTIVE SIGNALS:

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

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

6.8.5 BLOCK INSTRUMENT

In the event of partial/total failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer SR 6.02.03 & 6.02.06] During this period the authority will be T/369(3b) with identification number and Private Number issued from the station in advance written both in figure and words.

6.8.6 DEFFECTIVE INTERLOCKING

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

6.8.7 DEFFECTIVE/DAMAGED POINTS

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

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

6.8.8 RECEPTION OF A TRAIN ON BLOCKED LINE

Whenever trains are to be admitted on an obstructed line the Calling-on signal can 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 end of the concerned route vide SR 3.69.03. A stop hand signal shall be exhibited by the SM on duty at a distance of not less 45 mts. from the point of obstruction to indicate to the Loco Pilot as to where the train shall be brought to a stand.

6.8.9 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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

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

6.9 WORKING OF MOTOR TROLLEY, MATERIAL LORRIES ETC: -

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

The following precautions must be taken:

- i) The section where axle counters are provided in lieu of track circuits, trolleys, motor trolleys, Lorries etc which are not insulated, shall not be allowed to run except on line clear.
- ii) Motor trolleys / tower wagons / material Lorries are not likely to actuate the axle counter correctly. 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. 'Line Block' is to be activated on VDU by SM on duty following procedures as laid down in para No. 6.2.2. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23, SR5.04.01 (a) and SR 5.23.01(a)]

7.1 **LINE BLOCK FEATURE IN VDU-** Line block feature identical to conventional panel is incorporated in VDU panel for blocking of a running line which is blocked either by loose vehicles or by stabling of a train or by a train which is to cross or give precedence to another train. For blocking/unblocking of line, SM on duty has to click the mouse near the route button provided on running line and a popup menu Blocking & Unblocking will appear. By selecting the blocking option the said line is blocked and reception signal pertaining to that line cannot be taken off. For unblocking the line SM on duty has to select the unblocking option from popup menu. Similarly Blocking/Unblocking feature is provided near the advanced starter signals of both end of the station for Blocking/Unblocking the block section. By selecting the blocking option no train can be dispatched to the block section.

7.2 **SECURING OF VEHICLES :-**

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

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

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

- a) When a running line is blocked by stable load e.g, wagons, vehicles or by a train which is to cross or give precedence to another train or immediately after arrival of a train at the station etc. the points in rear should immediately be set against the blocked line except when shunting or another movement is required to be performed in that direction on the same line.
- b) If all the lines at a station happens to be blocked when line clear has been granted to a train, the points should be set for the line occupied by a stable load or a goods train in that order so that in a case of mishap, the chances of casualties are minimized.
- c) In case all the lines are occupied by passenger carrying trains points should be set for a loop line, to negotiate which the speed of the incoming train would be reduced, which in turn would minimize the consequences of casualties. While doing so, points shall be set for a loop, occupied by a train if any, whose engine is facing the direction of approach of the incoming train rather than a loop line, occupied by a train whose passenger coach will, in case of collision, receive the impact.

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

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

At stations where loading and unloading of goods is permitted whether full rake or part thereof, the station master shall ensure that no goods are left fouling any line before and after

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clearance of the rake from the line. The railway servant supervising loading and unloading shall also ensure that consignment does not foul any line vide SR 5.19.001: (a).

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

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

8.0 SHUNTING: -

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

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

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

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:.

When line clear has been given, no obstruction shall be permitted outside the station but shunting within the station section may go on continuously, provided the necessary signals are kept at "ON" vide GR 8.05 (2).

8.3 PROHIBITION OF SHUNTING ANY SPECIAL FEATURES IF ANY:

(i) Hand shunting /Fly shunting/ Loose shunting is prohibited at both ends of the yard.

(ii) While performing shunting at either end of the yard engine shall be leading towards the falling gradient.

8.4 SHUNTING ON SINGLE LINE: Not applicable.

8.5 SHUNTING ON DOUBLE LINE:

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

(ii) Shunting or obstruction for any other purpose shall not be permitted in the block section in rear unless it is clear and is blocked back Vide GR 8.06(2) and BWM 5.15[1][b].

(iii) Shunting or obstruction for any other purpose shall not be permitted in the block section in advance unless it is clear and is blocked forward Vide GR 8.06(3) and BWN 5.15[2][b].

8.6 SHUNTING IN THE SIDING TAKING OFF FROM THE STATION YARD:

While performing shunting in the sidings aspect of shunt signals is to be followed. For any non-signalled movement, it should be authorized by issuing T/806 clearly mentioning the limits up to which shunting is permitted as also the lines, occupied in shunting. The relevant provisions of GR 5.14 and SR thereto shall be meticulously followed. Private numbers should be exchanged between SM/LPG and SM of Bhushan Steel plant siding, M/s Aryan Ispat siding and Aditya Aluminium sidings along with slot for Aditya Aluminium siding (MGR) for UP and DN direction.

8.6.1 SHUNTING OUTSIDE STATION SECTION:-

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

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

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

(iv) The line outside the station section and up to the Home Signal shall not be obstructed unless a Railway servant specially appointed in his behalf by the SM who is in-charge of the operations, and unless –

The block section into which the shunting is to take place is clear of an approaching train and all relevant and necessary signals are kept "ON" position

(v) **SHUNTING WITHIN STATION SECTION :**

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If the necessary signals are kept at "ON", shunting may be carried on within the station section vide GR 8.05[2].

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

9.0 ABNORMAL CONDITIONS: -

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

[I] PARTIAL FAILURE OF COMMUNICATION: -

In the event of suspension of 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 & Chapter VI of Block Working Manual.

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

In case, it is necessary to allow a train into an obstructed block section due to engine failure, obstruction or accident, a block ticket shall be 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, train signal register and SM's diary. On the block ticket (T/A 602) it shall be mentioned in detail the place of obstruction i.e. Engine 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 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.

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

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

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- Not Applicable.

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

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

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

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

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

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

9.1 (A) TOTAL FAILURE OF COMMUNICATION: -

In the event of total failure of communications between LPG-BPSL Block Cabin or LPG-RGL i.e. when line clear cannot be obtained by any one of the following means stated in order of preference, viz.

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

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

- (i) Each train before being allowed to enter into the Block Section should be stopped and the Guard and Loco Pilot of the train apprised of the situation.
- (ii) The SM will hand over an authority i.e. T/C 602 for working of train during total interruption of communication to the Loco Pilot of each train which shall include-
 - a) Authority to proceed without 'Line Clear'.
 - b) Authority to pass the Last Stop Signal at its "ON" position, i.e. T/369(3b).
 - c) A caution order restricting the speed to 25KMPH by day when view ahead is clear and 10KMPH by night or when view ahead is not clear.
- (iii) No train shall be allowed to enter the Block Section until there is a clear interval of 30minutes between the train about to leave and the train, which has immediately proceeded.

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- (iv) Fixed signals except the last stop signal may be taken "OFF" for the dispatch of the train and for the reception of the train at the next block station, reception signals may be taken off only after the train has been brought to a stand outside it.
- (v) On arrival at the next block station the Loco Pilot shall hand over the authority to proceed without line clear to the SM on duty who will preserve the same for further inspection.
- (vi) Before resuming normal working when any means of communication is established. SM of either end must satisfy that there is no train in the block section. [Refer SR 6.02.03].

9.2 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

During temporary single line working, when one line is clear and the other line is obstructed between LPG=RGL or LPG-BPSL Block Cabin the trains shall be worked as per the procedure, [Refer SR 6.02.01] which is summarized as follows:

- (a) Before introducing single line working the SM on duty must satisfy that the line on which single line working will be introduced is clear and free from all obstructions.
- (b) The Lock and Block instrument will be suspended. The Commutators of Lock & Block Instrument will be kept on "Train on line position".
- (c) SM proposing single line working must issue a message with
 - (i) The cause of introduction of single line working,
 - (ii) Line on which the single line will be introduced,
 - (iii) Source of information about the clearance of the line on which single line will be introduced,
 - (iv) Place of obstruction,
 - (v) Restriction of speed, If any,
 - (vi) Assurance about keeping the last stop signal at 'ON' position if the train runs on right line and in case of wrong line all signals are to be kept at 'ON' position etc under the exchange of Private Number.
- (d) SM on duty at the other end of the block section will acknowledge the message and confirm the same by a Private Number.
- (e) After obtaining line clear for the train from the advance station the Loco Pilot must be given as-
 - (i) Authority for Temporary Single Line (TSL) working on double line (T-D/602) indicating there in
 - Caution order
 - The line on which single line working is introduced.
 - The chainage kilometer of obstruction.
 - Any other speed restriction, if any existing.
 - Endorsement to inform all Gang man and Gateman about the single line working (for the first train only).
 - The speed of the first train to be restricted to 25 KMPH subject to other speed restriction.
 - Authority to pass Signal in "ON" position
 - (ii) A pilot memo T/369(3b) to pass the last stop signal at its 'ON' position. The approach stop signals at the station in advance may be taken "OFF". In case a train proceeding on wrong line, the train shall be piloted out and at the receiving station, the train shall be piloted 'IN', on the authority of T/369(3b).

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

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

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

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10. **VISIBILITY TEST OBJECT: -**
 i) V.T.O. post / Authorised substitutes earmarked to work as V.T.O. Post. – The lights of Line No.3 starters on both ends are earmarked to serve as VISIBILITY TEST OBJECTS vide GR 3.61 (2) (b) (ii).
 ii) Distance between CSB and V. T. O. post: - 180 Mts.
 iii) Station Master on duty will test the visibility during thick and foggy weather and if visibility is impaired, he will work as per GR 3.61 and SRs thereto.
11. **ESSENTIAL EQUIPMENTS AT THE STATION: -** This is mentioned in the Appendix 'E' of the SWR. Essential equipments shall be kept ready on hand in good condition with necessary relief stock.
12. **FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG: -** In order to indicate to the Loco Pilots of approaching trains the location of signal during thick, foggy and tempestuous weather or during dust storm, the SM on duty shall arrange for fog signalling in terms of General Rule 3.61 and Subsidiary Rules thereto. Assurance of the staff shall be taken in the Fog Signal Register in the month of October every year as token of their having knowledge of Fog Signalling Rules and their use.
 Fog signalmen shall be detailed for duty at stations being recruited partly from the station traffic staff and partly from Engineering Gang man and must not be substitutes or casual labour but regular employees of the railway.

STATION DETONATOR REGISTER (OPT/124)

A Register regarding detonator is maintained at the station.

(a) INSTRUCTIONS:

This register contains the following parts.

- Part. - I: Particulars of fog signalmen posted at the station from time to time.
- Part – II: Particulars of receipt and stock of detonating (fog) signals at the station to be filled in whenever detonators are used or received.
- Part – III: Periods of fogs, fog signalmen on duty and details of detonators used.
- Part – IV: Particulars of issue and testing of fog signals at the station.
- (b) In charge of the station shall ensure that the information maintained in the register is kept upto date and is accurate in all respects.
- (c) Transportation inspectors shall check the registers and also the stock of detonators on hand each time they visit the station and initial with date as an indication having done so.

CERTIFICATE:-

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

1.0 GATE WORKING INSTRUCTIONS OF “B2” CLASS TRAFFIC INTERLOCKED LEVEL CROSSING GATE AT KM 528/27-29(UP),528/28-30(DN) LOCATED AT BPSL BLOCK CABIN END OF LAPANGA STATION.

1.1 GENERAL INSTRUCTIONS:

1.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE: -

- | | |
|---|--|
| 1. Number of level crossing gate | : JT-7 |
| 2. Engineering or Traffic Gate | : Traffic |
| 3. Under control of Station Master or PWI | : SM / LPG |
| 4. Location at KM | : 528/27-29(UP),528/28-30(DN) |
| 5. At station | : LAPANGA |
| 6. In between station | : LPG-BPSL Block Cabin |
| 7. BG/MG/NG | : BG |
| 8. Single line/Doubling Line/Multiple Line | : Double line |
| 9. Normal position | : Open to road traffic |
| 10. Interlocked/Non-interlocked | : Interlocked |
| 11. Means of interlocking | : R.K.T |
| 12. Provision of gate Signal at Kms | : NIL |
| 13. Signalling arrangement | : MACLS |
| 14. Means of communications Telephone/Bell etc. | : Telephone connection with SM office/LPG |
| 15. Width of Level Crossing Gate | : 7.5 MTRS |
| 16. Type of Road | : Others |
| 17. Name of Road | : Guripali Road |
| 18. Metaled/Non Metaled | : Metaled |
| 19. Approach Road | : Metaled |
| 20. Width of the Road | : 7.0 MTRS. |
| 21. Angle of Road Crossing (incase of the SKEW gates) | : ----- |
| 22. Road Gradient (if any) | : (a) North/East side --- Nil
(b) South/West side--- Nil. |
| 23. Road alignment (straight/curve) | : (a) North/East side- straight.
(b) South/Westside-straight. |
| 24. Provision of height gauge | : Provided |
| 25. Type of Barrier | : Electrical Operated Lifting Barrier |
| 26. Length of check Rail | : 9.5 M |
| 27. Road surface in between level crossing gates. | : C.C.Block |
| 28. Length of Rumble strip/speed breakers. | : 9.0 M. |
| 29. Road Signs | : Provided |
| 30. Speed breakers indication board | : Provided |
| 31. TVU | : 24958 on 02/2022 |
| 32. Census next due on | : 02/2025 |
| 33. Demarcation for placement of detonators. | : Provided |
| 34. No.of gateman working | : 2 (12 Hours shift) |
| 35. Nearest Railway Medical Assistance | : Jharsuguda |
| 36. Nearest Private Medical Assistance available (if any) | : Lapanga |
| 37. List of equipment available Yes / No. | : Yes |

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1.2 EQUIPMENTS TO BE AVAILBALE AT THE GATE:-

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

1.3 The gateman shall be provided with following registers: -

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.

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 in case of emergency or 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 gate against road traffic, before leaving the gate.
- iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot.
- vii) If lifting barriers get damaged or becomes out of order, the Gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- viii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- ix) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- x) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- xi) Gateman shall work the gate as per gate working instructions and remain well conversant with these instructions.
- xii) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xiii) Gateman shall see that the channel for the flange of the wheel is kept clear.
- xiv) Gateman must keep the road surface well-watered and rammed in case of unmetalled roads.
- xv) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvi) Gateman shall prevent tress passing by persons or cattle to the maximum extent.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

- I. He shall take prompt action to warn the Loco Pilot/guard of the passing train by showing red flag by day and red light by night.
- II. He shall simultaneously try to draw the attention of the Loco Pilot/guard by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.
- III. If Loco Pilot/guard fails to take notice, Gateman shall immediately inform the Station Master, to take appropriate action, under exchange of private number.
- IV. In case of train parting, Gateman shall not show stop hand signal but shall show prescribed signal for train parting.

- V. He shall endeavor to attract the attention of the Loco Pilot/Guard by whistling continuously, shouting, gesticulating, and by raising both hands vertically above, quickly parting them 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/LPG, 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) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, regarding the defects/obstructions at the gate, under exchange of private number.
- iii) If there is no response from the Station Master after or three attempts he shall first protect the gate and then inform on phone.

ON ELECTRIFIED SECTION:-

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

The gateman shall protect the line as under: -

a) ON DOUBLE LINE SECTION:

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

b) OTHER ACTIONS TO BE TAKEN BY GATEMAN:

- (i) At night Gateman shall light two hand signal lamps and take action to exhibit red light and protect

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the lines as described in sub paras (a) and (b) above.

- (ii) If the gate is broken by a road vehicle, which is fouling the track or if lifting barriers or any other part of the gate fouls the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
- (iii) He shall note down the particulars of the road vehicle, vehicle number, name of the driver, owner and relay these details to the Station Master/LPG regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

1.5 **ENGINEERING ITEMS:**

- i) Visibility :-

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

- ii) Speed Breaker: - Speed Breakers of approved design are provided on either side of this Level Crossing gate.
- iii) Periodical Census of traffic has been taken and the latest TVU is 24958 as on 02/2022.

1.6 **SPECIAL INSTRUCTIONS:**

1. **MODE OF OPERATION:**

This is an interlocked L.C.Gate situated at the BPSL Block Cabin end of the yard in between DN starter and DN Advanced starter signals. Telephone communication is provided between the L C. gate lodge with SM on duty of LPG 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 opened to road traffic. The key "Q" of the LC normally remains locked in the Panel when the gate is in open condition.

When it is necessary to close the gate, for taking off signals, the SM on duty shall inform the gate man to close and lock the gate. The gate man on duty shall operate the switch "S1" to reverse the position in the hand generator cum panel & 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 'Q' is to be extracted from EKT-1 and inserted in EKT-2. This Key 'Q' will be transmitted electrically to panel in conjunction with switch "S" reversed to control concerned signals, Switch 'S' is provided in the panel to put back the concerned signals to danger in case of emergency.

After passage of the Train, the SM on duty shall inform the gateman and transmit the control by clicking gate icon, after transmission of the KEY IN indication will start flashing. The gate man will extract the control key 'Q' from the EKT-2 and insert in EKT-1. Keeping the switch S1& S in normal position the gate man will get a gate free indication on panel and subsequently the gate can be opened by pressing the GREEN push button. 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.

One emergency key 'S' mechanically free & electrically proved is provided in a red sealed glass box for emergency opening of the gate incase of failure in extracting key-P from EKT. Concerned signals will be put back to "ON" position when emergency key is extracted.

The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gateman.

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

INSTRUCTIONS FOR OPERATION OF SLIDING BOOM:

- a. In case of breakage of normal boom or LC gate cannot be closed due to failure, the Gate man shall release electro-mechanically free Key 'H' from " EKT- 5 " provided in the Gate lodge. Extraction of Key 'H' from the "EKT-5" will put back the road signals to danger and the hooter will sound simultaneously. Key 'H' unlocks the Sliding Barrier-1 provided at the near end of Gate Lodge.
- b. Sliding Barrier-1 to be rolled across the road up to lock post. Key (chained with barrier) releases the lock plunger & Key 'SB-1' when extracted lock the Sliding Barrier-1.
- c. Similarly, Sliding Barrier-2 provided at the far end of Gate lodge, after unlocking the pad lock by Gateman (Key available with self custody with him) to be rolled across the road up to lock post. Key (chained with Barrier) along with Key 'SB-1' inserted releases the lock plunger & Key 'SB-2'. Key 'SB-2' when extracted locks the Sliding Barrier-2 & Key 'SB-1'.
- d. Finally released Key 'SB-2', is to be transmitted electrically to SM/LPG by inserting it in "EKT- 4" provided in the Gate lodge, in conjunction with Gate slot switch 'GS' reversed to enable the SM/LPG on duty to take off concerned signals.
- e. In case of any damage to sliding boom when it is in closed condition to road traffic, leading to infringement or obstruction on track, the Gateman shall normalize the switch 'GS' to put back the concerned signals to danger.
- f. After passage of train, SM/LPG on duty shall transmit the Gate Key. The Gateman shall extract Key 'SB-2' from "EKT- 4", normalize the switch 'GS', unlock the sliding boom and operate the gears in reverse sequence of operation to normalize the sliding boom.

2. INTIMATION TO GATEMAN-

- i) Before taking off reception/departure signals Station Master/LPG shall inform the gateman, the number, description, and direction of the train.
- ii) The gateman shall close the gate and transfer the key to the Station Master/ LPG
- iii) The reception/departure signals will then be taken 'OFF'
- iv) In order to ensure that road traffic is not held up for a long time, the Station Master/ LPG 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.

- vii) Station Master/ LPG 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 / LPG on duty on telephone, under exchange of private number.
- ii) For emergency opening of the gate, he will extract key-S from EKT kept in the red sealed glass box which is mechanically free & electrically proved. Concerned signals will be put back to "ON" position when emergency key is extracted. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gateman.
- iii) Thereafter, the gate must be treated as non – interlocked and procedure for reception/ despatch of trains as prescribed for non – interlocked gates should be adopted.
- iv) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass the trains on hand signals.
- v) Station Master on duty/ LPG shall issue a written authority in form T/369(3B) to the Loco Pilot of a departing train.
- vi) He shall also advise the station Master/BPSL Block Cabin at the despatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching a train into the block section from his end.
- vii) Station Master/ LPG 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.

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/ LPG on telephone, under exchange of private number.
- ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/dispatch of trains as prescribed for non-interlocked gates should be adopted.
- iii) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass the trains on hand signals.
- iv) Station Master on duty/ LPG shall issue a written authority in form T/369(3B) to the Loco Pilot of a departing train.
- v) He shall also advise the station Master/BPSL Block Cabin 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/ LPG 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 put back the signal to danger by operating switch "S" and thereafter fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.

- ii) Immediately after this, the gateman shall advise the Station Master/ LPG on duty, regarding the defects/obstruction at the gate, under exchange of private number.
- iii) The Gateman will advise to Stationmaster/ LPG on duty to put the reception/departure signals back to 'ON' position.
- iv) If there is no response from the Station Master / LPG after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gateman shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item No.2.4 (5).
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the station Master/ LPG 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/ LPG shall also inform the station Master/BPSL Block Cabin at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.
- ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master/ LPG accordingly, under exchange of private number.
- x) Station Master/ LPG shall then issue a caution order and T369/3B to Loco Pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- xi) 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/ LPG 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/ LPG 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 obstructions.

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

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

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

2.0 GATE WORKING INSTRUCTIONS OF 'B2' CLASS ENGINEERING INTERLOCKED LEVEL CROSSING GATE (No.JT-6) AT KM.526/19-21(UP),526/20-22(DN) IN BPSL BLOCK CABIN – LPG SECTION.

2.1 GENERAL DESCRIPTION:-

2.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

- | | | |
|-----|---|--|
| 1. | Number of Level Crossing Gate: - | JT-6. |
| 2. | Engineering or Traffic Gate: - | Engineering. |
| 3. | Under control of Station Master/Permanent Way Inspector: PWI. | |
| 4. | Location KM | 526/19-21(UP),526/20-22(DN) |
| 5. | At. Station: - | ---- |
| 6. | In between stations: - | LPG & BPSL BLOCK CABIN |
| 7. | BG/MG/NG: - | BG. |
| 8. | Single line/Double line/Multiple line: - | Double Line. |
| 9. | Normal Position: - | Open to road traffic. |
| 10. | Interlocked/Non Interlocked: - | Interlocked. |
| 11. | Means of interlocking: - | UP and DN Gate Stop signal |
| 12. | Provision of Gate signal at Kms. | i)Up line : Km. 526.365
ii)Dn line : Km.526.725 |
| 13. | Signalling arrangement: - | UP Gate Stop signal , DN
Gate Stop signal,UP gate
Dist and DN gate Dist. |
| 14. | Means of Communication: | Magneto Telephone
Communication from Gate
Goomty with SM/ LPG. |
| 15. | Width of level crossing Gate: - | 5.5 Meters_. |
| 16. | Type of road. (NH/SH/Others): - | Others (village) |
| 17. | Name of Road: - | The Lilkuli village road. |
| 18. | Metaled/Non: | Metaled |
| 19. | Approach Road: - | WBC. |
| 20. | Width of the road: - | 5.5 m. |
| 21. | Angle of road crossing (In case of the skew Gates) | NIL. |
| 22. | Road gradient (If any) | i)North side. 1 in 76.F
ii)South side 1 in 76.F |
| 23. | Road alignment (Straight/Curve): - | i)North side. Straight.
ii)South side straight. |
| 24. | Provision of height gauges: - | Provided. |
| 25. | Type of Barriers: - | Electrically Operated Lifting
barriers. |
| 26. | Length of check rails: - | 7.5. Meters. |
| 27. | Road surface in between Level: - | CC Blocks. |
| 28. | Length of speed breakers: - | 9.5 Meters. |
| 29. | Road signs: - | Available |
| 30. | Speed breaker indication board: - | Provided. |
| 31. | TVU: - | 21069 on 11/2021. |
| 32. | Census next due on: - | 11/2024 |
| 33. | Demarcation for placement of Detonators: - | Provided. |
| 34. | No of Gateman working: - | 03(08 Hours shift). |
| 35. | Nearest Railway Medical Assistance: - | Jharsuguda. |
| 36. | Nearest Private Medical Assistance available (if any) | LPG. |
| 37. | List of equipment available Yes//No: - | Yes. |

2.2 EQUIPMENTS TO BE AVAILABLE AT THE GATE:

ITEMS	QUANTITY/NUMBERS
1. 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

2.3 THE GATEMAN SHALL BE PROVIDED WITH FOLLOWING REGISTERS: -

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

2.4. APPROACH WARNING: Approach warning (audio) is provided at this gate. This will be effective in UP direction from track circuit No. 7T and in DN direction from track circuit No.46T of LPG. A Push Button is provided at the Gate Panel to stop the approach warning audio buzzer. Also dead approach locking of 60 seconds with back locking is provided.

2.5 **MODE OF OPERATION:**

NORMAL WORKING OF THE LEVEL CROSSING GATE (INTERLOCKED):

This gate is interlocked with both UP and DN Gate stop Signals. This gate is operated electrically. The gate shall normally be kept open to road traffic. Whenever, it is required to close the gate, Station Master on duty shall inform the Gateman about the direction, description and approximate time of passage of the train at the gate. Gateman on duty shall ensure clearance of road traffic, close and lock the gate.

INTIMATION TO GATEMAN:

- i) Immediately after departure of the train, SM shall advise the gateman through telephone, the number, description, direction and expected time of the passage of the train at the gate.
- ii) If the actually running time of the train from either end of the section is less than 10 minutes, SM will convey this advice to the gateman before obtaining /granting line clear.
- iii) 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.
- iv) The gateman shall close the gate as per following procedure:-
- v) The Electrical lifting barriers have two modes of operation such as
- vi) Normal operation, Push button type.
- (vii) Manual operation with direct Crank Handle in case of Emergency.

An operating panel is provided at the gate lodge for controlling the gate by electrical power in which controlling switches and indications are provided.

Description of switches, pushbuttons and indications

1. Selector Knob in Black colour to select hand generator operation/ push button operation.
2. 'Power indicator' in Yellow colour.
3. 'Barrier-A' close indicator in Yellow colour.
4. 'Barrier-B' close indicator in Yellow colour.
5. 'Close' in Green colour.
6. 'Open' in yellow colour.
7. 'Barrier-A' locked in green colour.
8. 'Barrier-B' locked in green colour.
9. 'Emergency push button in red colour.

Operation with push button (Electrical Operation)

1. Keep the selector knob in push button operation mode.
2. Keep the push button 'CLOSE' pressed till the L.C. Gate closed and locked indication appears in the panel.
3. After the gate is closed and locked, then switch GS1 or GS2 reversed will clear UP Gate stop Signal No.GS1 or DN Gate Stop Signal No.GS2 respectively.
4. Switch "GS1/GS2" is provided in the L.C. Gate panel to put back the signal to danger in case of emergency.

FOR OPENING:

1. For opening of the gate, switches GS1 (UP) or GS2 (DN) are to be normalized after passing of the train at the gate. Then the route will be released.
2. Press the "OPEN" push button (Yellow) continuously till the barriers reach in the vertical position.
3. When the route is not released after normalization of switches GS1(UP) or GS2(DN), following procedure to be adopted.
 - a. A timer will initiate and flashing indication appears on the panel, immediately after normalization of switches GS1(UP)or GS2(DN)
 - b. After 60 seconds, indication becomes steady.

4. Then press the "OPEN" push button (Yellow) continuously till the barriers reach in the vertical position.

FOR CLOSING:

For closing the gate, the following procedure is to be followed:

1. Ensure power 'ON' indication in the panel.
3. Keep the push button "CLOSE" pressed till the L.C. Gate is closed and locked
Indication appears on the panel.
4. Turn the switch GS1 or GS2 to reverse position which will clear UP Gate stop Signal No.GS1 or DN Gate Stop Signal No.GS2 respectively

EMERGENCY GATE OPERATION:

1. In case of emergency, for opening of the gate, the gate man will inform SM/LPG under exchange of private number.
2. GS1 (UP) or GS2 (DN) switch to be normalized provided on the control panel.
3. Emergency crank handle welded with EKT-3 key is kept in the sealed red box for emergency operation.
4. Break the seal of emergency sealed red box.
5. Then key 'B' (chained with crank handle) is extracted from EKT(Electro Mechanically Free), provided at the gate lodge
6. Unlock the lock of Barrier-A and Barrier-B by a lock Handle provided at the lock post of concerned Barrier.
7. Insert the barrier crank handle into the hole provided in the mechanism box in rear door which is connected to the shaft of the gear drive unit of the pedestal.
8. Rotate crank handle clockwise for closing and rotate crank handle anticlockwise for opening the gate.
9. Extraction of key 'B' shall put back all the relevant signals at 'ON' position.

In case of gate not operated electrically, following procedure is done for signaling movement.

1. Emergency crank handle welded with EKT-3 key is kept in the sealed red box for emergency operation.
2. GS1 (UP) or GS2 (DN) switch to be normalized provided on the control panel
3. Break the seal of emergency sealed red box. Extract the emergency crank handle welded with EKT-3 key. Close the gate by emergency crank handle.
4. Lock the Barrier A and barrier B by lock handle manually.

- (i) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- (ii) 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.
- (iii) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- (iv) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot through walkie-talkie or by any other means.
- (v) If lifting barriers / leaf gates get damaged or become out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- (vi) Gateman shall report to the nearest SM, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- (vii) In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal if necessary.
- (viii) At the gate whose signal have become defective, the gateman shall close and lock and lifting barriers / leaf gates on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- (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 shall keep the road surface well watered and rammed in case of unmetalled roads.
- (xv) Gateman must be vigilant to see that, road users do not face inconvenience due to closure of gates for longer period of time .
- (xvi) Gateman on electrified section shall watch that road vehicles passing through the gate are within the height gauge provided on either side of the level crossing gate.
- (xvii) Gateman shall prevent trespassing by persons or cattle to the maximum possible extent.
- (xviii) Before opening the gate, he shall ensure that, the train has passed complete over the level crossing by observing the last vehicle indicator of the train.

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

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

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

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

B) **Electrified Section:**

- (i) On noticing that, the whole or part of the OHE or a feeder or a cable falling down, the gate keeper shall ensure that, as far as possible, human beings, animals or vehicles etc are kept away in order to avoid any contact with the live equipment.
- (ii) As soon as it is noticed that, Pantograph of an electric rolling stock getting damaged and/or entanglement of the same with the OHE, he shall make every possible effort to stop the train and immediately inform SM on duty.
- (iii) Any damage to the track or structures of the OHE comes to the notice of on duty GK, he shall immediately inform SM on duty and take all necessary measure for protection of the line as under
- (a) The gateman shall protect the line as under:- **ON DOUBLE LINE SECTION:-**
 - i) If both lines are obstructed the gateman shall plant a red banner flag by day and a red light by night 5 meters away on the post duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.
 - ii) Then he will similarly plant the other red banner flag by day or red light by night on the other line 5 meters away.
 - iii) Gateman shall then proceed to protect the gate along with detonators, LED based flashing tri-colour hand signal lamp by night or red flag by day.
 - iv) Gateman shall proceed exhibiting red flag by day or red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 on BG from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line, he shall return to the level crossing gate picking up the intermediate detonator on his way back.
 - v) Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in Para iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
 - vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
 - vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
 - viii) Thereafter, he should try to stop the approaching train by waving his red flag by day or red hand signal lamp by night repeatedly.

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

- a. At night gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub Para (a) above.
- b. He shall note down the particulars of the road vehicle, vehicle number, name of the Driver, owner and relay these details to use nearest SM or Permanent Way Inspection regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.
- c. If the Gate is broken by a Road vehicle in closed condition of the Gate and if lifting barrier or any other part of it or the vehicle is fouling the track, the Gateman should immediately put the UP & DN Gate signals to "ON" position, in terms of GR Para 16.07(a), if he is unable to remove the obstruction.

c. ENGINEERING ITEMS:

i) Visibility :-

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

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

iii) Periodical Census of traffic has been taken and the latest TVU is 21069 as on 11/2021.

2.7 FAILURE OF TELEPHONIC COMMUNICATION

When telephonic communication fails or it does not get any response from gateman despite 2 or 3 attempts, the following procedure should be adopted:

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

2.8 FAILURE OF LIFTING BARRIERS:

- i) When the gate cannot be closed due to failure of lifting barriers, the gateman will immediately inform the Station Master on duty, under exchange of private number, and ensure that lifting barriers do not foul the track.
- ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- 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 at night to the Loco Pilot of the approaching train.
- v) Station Master on duty shall issue caution order to the Loco Pilot of departing train.
- vi) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- vii) Station Master shall advise maintenance staff responsible for maintenance of lifting barriers/ leaf gates to rectify the defect at the earliest.

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

2.9 OBSTRUCTION AT THE GATE:

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

2.10 OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No. 4.9 above. If the obstruction fouls the Level Crossing Gate, gate man must keep the gates closed against road traffic till the track is cleared of the obstruction.

2.11 DUTIES OF GATEMAN IN CASE OF ACCIDENTAL ROLLING DOWN OF TRAIN:-

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

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

APPENDIX – ‘B’

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

1.0 BRIEF DESCRIPTION OF THE SIGNALLING & INTERLOCKING INSTALLATIONS:

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

2.0 DESCRIPTION OF OPERATOR CONSOLE CUM VISUAL DISPLAY UNIT:

The Operator Console cum Visual Display Unit (VDU) is provided for operation of Signals, Points, Crank Handles, Siding & other controls etc. A Mimic yard diagram based on approved SI plan will be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the Station yard mimic diagram of VDU will be dynamically updated.

2.1 SYSTEM OVERVIEW:

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

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

2.3. ICONS AND INDICATIONS PROVIDED ON THE VDU

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

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

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5.	---	System indication On/Off	Indicates System 'A' or 'B' is in working mode	
6.	Point failure Ack. button	Yellow	Flashing indication appears when any point fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. After verification at site inform S&T staff Immediately.
7.	Signal failure Ack. button	Yellow	Flashing indication appears when any signal fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. Inform S&T staff Immediately.
8.	CH-1 to CH14	Yellow lamp indicates 'KEY IN'. Red lamp indicates 'CH LOCKED'	In normal condition yellow lamp will be lit. Whenever the crank handle is locked in route or otherwise red indication will glow.	--
9.	'DN Train Entering Section' muting	Yellow - acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	
10.	'UP Train Entering Section' muting	Yellow - acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	
11.	UP Block release	Yellow – Prepared for Block release.	On getting indication SM shall left click on the button icon which shall release Block Handle.	After complete arrival of train this will be activated
12.	DN Block release	Yellow – Prepared for Block release.		
13.	L.C.Gate control-73	Yellow lamp indicates 'Gate Closed'. Red lamp indicates 'Gate LOCKED'.	SM shall right click on the button icon to select menu to Transmit / Receive/ emergency operation of gate as required.	In case of emergency operation 'Emergency gate release' indication will appear. For each operation concerned counter shall register one count higher.
14	Counter	-	As and when required SM shall point the cursor on the counter icon and right click on it. A drop down menu will appear indicating all the counters available in the system. SM shall select the required counter on the menu and can read the latest counter reading.	-

15	Line Block	Red when blocked	SM shall point the cursor on the icons provided on the berthing track and right click. One drop menu will appear indicating line blocked and un-blocked, SM has to select the required menu.	When line block is selected the concerned berthing portion of track will appear as thick Red line.
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3.0. OPERATIONAL PROCEDURE THROUGH VDU AND INDICATIONS:

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

3.1 ELECTRONIC INTERLOCKING (E.I) SYSTEM INDICATIONS:

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

3.2 OPERATION PROCEDURE OF SS/SM's KEY :

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



Enter the USER NAME and PASSWORD and click the OK button.

Now the Operating VDU is ready for use & the entire yard can be controlled from the VDU. Similarly, Station Master to select the KEY OUT to prevent the unauthorized operation.

3.3 OPERATION AND INDICATION OF POINT:

To Operate the Point the SM needs to track the mouse pointer to concerned point's Normal/Reverse indications on the VDU, after clicking by the left button on the mouse a pop-up menu will appear as below:

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Normal
Reverse
Emergency Normal
Emergency Reverse

3.3.1 REVERSE TO NORMAL OPERATION:

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

3.3.2 NORMAL TO REVERSE OPERATION:

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

3.3.3 POINT INDICATIONS

When the point is free, a steady strip of light will appear in the point zone (In case of cross-over at both ends) indicating the point is in normal/reverse condition. When the point is operated the same strip of light starts flashing till the point is set and becomes steady when the point is set and detected. When the point is engaged in a route yellow light will appear near the point indicating that the point is locked and cannot be operated now.

3.4 PROCEDURE FOR SETTING OF ROUTES AND TAKING OFF SIGNALS:

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

SIGNAL S1

S1 – S19

S1 – S21

S1 – S23

S1 – S25

S1 – S29

S1 – S31

S1—S33

C1 – S19

C1 – S21

C1 – S23

C1—S25

C1—S29

C1- S31

C1- S33

MAIN SIGNAL CANCEL

MAIN ROUTE RELEASE

CALLING ON SIGNAL CANCEL

CALLING ON ROUTE RELEASE

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

3.4.1 SETTING A ROUTE AND ITS INDICATIONS:

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

3.4.2 SHUNT SIGNAL OPERATION:

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

3.4.3 CALLING ON SIGNAL OPERATION:

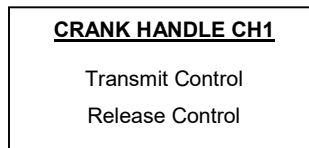
The same procedure as main signal has to be followed as explained above. To set the signal route for CALLING ON signals SM on duty shall select the desired route and left click on the same after a train occupies the approach track circuit in immediate rear of the stop signal. The signal is cleared after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

3.5 CRANK HANDLE CONTROL OPERATION:

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



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



To Transmit the Crank Handle KEY to the field personnel, SM on duty has to click transmit control menu. After transmission the 'KEY IN' indication will start flashing, now the KEY can be extracted from the RKT at site. After extracting the key from the RKT, the 'KEY IN' indication will disappear. When the Manual point operation is over, after putting CH key in the RKT, 'KEY IN' flashing indication will appear on the VDU, Now the SM on duty has to release the control for the steady indication by clicking release control menu.

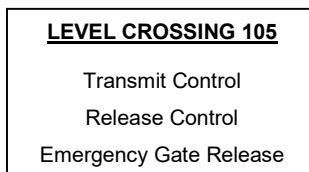
A Crank handle locked indication (Red) will appear when the particular point is on the signal route set over it or engaged in route setting in any other way.

3.6 LEVEL CROSSING GATE OPERATION:

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



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



Normally no indication will be available on the VDU indicating that the gate control key is out and gate is open. When it is required to close the gate SM on duty shall intimate the gate man to close the gate. On instructed by the SM on duty the gate man shall close and lock the gate and after reversing the concerned slot lever he shall transmit the gate control key to station by inserting and transmitting the key in the RKT. A flashing yellow indication will appear on the VDU seeing which SM on duty shall receive the control by clicking on the L.C. Gate control button icon and select 'Receive'. The flashing indication shall become steady. When the key is required to be transmitted to the Gate man, SM on duty has to transmit the control by clicking on transmit control. After transmission, the KEY IN indication will start flashing, now the KEY can be extracted from the RKT for opening the gate. For closing the gate, the gateman after closing the gate insert the key in the EKT. KEY IN flashing indication will appear on the VDU. Now the SM has to release the control for the steady indication. The locked indication will appear when the LC Gate has locked by initiation of any of the possible signal routes.

3.7 OVERLAP TIME RELEASE (WHITE LIGHT):

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

4.0 EMERGENCY OPERATIONS:

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

4.1 CANCELING A ROUTE/ EMERGENCY ROUTE RELEASE:

To cancel a signal route, when the route is set and the signal is taken-off, click on the signal. After clicking by the left button on the mouse, a pop-up menu will appear as shown in Para 3.4 above. Click on the cancellation menu (Main/ Calling on) of the concerned signal, the signal will immediately go to 'ON' aspect. After doing so, click on the Route release menu the route locked indication will start flashing for 120 sec & the Emergency Route Release Indication (UP / DN as the case may be) will flash for the entire time interval. After the completion of 120 sec, the locked route will be released. This action will be recorded in a counter. The counter number will increase to next higher number for each such operation and also, this number should be recorded by the SM on duty who shall record the details of the Route cancellation along with the latest counter no. in a register.

4.2 EMERGENCY OPERATION OF POINTS:

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

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

4.2.1 EMERGENCY NORMAL OPERATION

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

After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu. The user name and password is to be given for "KEY OUT" also.

4.2.2 EMERGENCY REVERSE OPERATION OF POINTS:

Before doing the emergency operation, Emergency Point Operation Key is to be made 'KEY IN' by clicking the 'KEY IN' menu. The user name and password is to be logged in. Emergency reverse menu to be clicked. Track the pointer to 'EMERGENCY REVERSE' menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to Reverse. The counter will increase by next number for each and every such action and also, this number should be recorded by the SM on duty who shall record the details of the Emergency Point Operation along with the latest counter no. in the register and SM's diary.

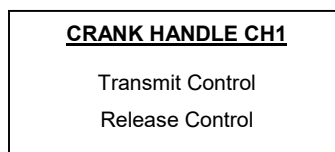
After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu. The user name and password is to be given for 'KEY OUT' also.

4.2.3 EMERGENCY CRANK HANDLE RELEASE OPERATION:

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



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



For Transmitting the Crank Handle KEY to the field personnel SM on duty has to click transmit control menu. After transmission the 'KEY LOCKED' (Red) indication will start to flash for 120 seconds & 'KEY IN' remains steady. After a lapse of 120 seconds the 'KEY LOCKED' indication will vanish & 'KEY IN' indication will start to FLASH. After extracting the key from the RKT, the 'KEY IN' indication will disappear. When the Manual point operation is over, after putting the

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emergency crank handle key in the RKT, flashing 'KEY IN' indication will appear on the VDU, Now, the SM on duty shall Release the control for the Steady indication by clicking 'RELEASE CONTROL' menu.

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

4.3 EMERGENCY GATE OPERATION:

L.C. Gate control can be released and the gate can be opened by this operation when LC gate control remains in locked condition due to setting of any of the signal routes over it or otherwise. For releasing the gate by the Emergency operation the SM on duty has to cancel the signal by signal cancellation control of the relevant signal. Then he has to click the Emergency Gate release control in the Gate pop-up menu. Now the 'LOCKED' (Red) indication will flash for 120 seconds & after the time has elapsed the 'LOCKED' (Red) indication will vanish. Now the SM on duty shall transmit the 'GATE CONTROL' in this condition and 'KEY IN' indication starts flashing. Now the KEY can be extracted from the RKT at Gate Lodge and gate can be opened. This action will be recorded in a counter. The counter will increase by next number for each and every such operation and also, this number should be recorded by the SM manually in a register.

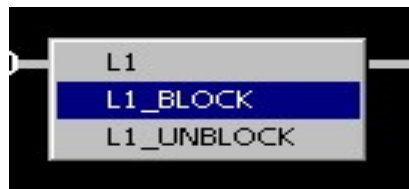
The counter will increment the number for each and every such action and also, this number should be recorded by the SM on duty who shall record the details of the Emergency Gate Operation along with the latest counter no. in a register.

4.4 LINE BLOCK AND UNBLOCK (REMINDER COLLAR):

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

4.4.1 LINE BLOCK:

To set the 'LINE BLOCKED', the SM on duty shall select "L. No. _BLOCK" command using the left mouse button, after selecting the Line Block that particular line will be blocked for all the possible Track circuit section on that particular line. The 'TRACK BLOCK' yellow colour indication will be displayed after the successful application of such a blocking process on the VDU.



4.4.2 LINE UNBLOCK:

To release the set block of any particular line, the SM should select "L. No. ___ UNBLOCK" command using the left mouse button. After selecting the "L. No. ___ UNBLOCK" that particular line will be available for the train movement leading to all the possible L1 Track circuit section.

5.0 PROCEDURE FOR RESETTING OPERATION OF LVCD (DIGITAL) AXLE COUNTER IN SECTION LPG – BXQ AND LPG-RGL.

- 5.1 Digital Axle Counters are provided on both UP & DN line in either side block sections between LPG-BXQ and LPG-RGL. A pair of digital Axle counter has been provided between LPG and M/S Aditya Aluminium siding (MGR) in plant yard also for proving clearance of the section..The occupation and clearance of the axle counter section are indicated on VDU by RED & GREEN light respectively. When after arrival of a train the LVCD Axle counter does not show clear indication and the 'Section Occupied' indication continues to glow SM on duty shall initiate resetting procedure for the LVCD Axle Counter, monitoring the Block section. Before initiating Resetting procedure SM on duty shall ensure that the train which has left arrived completely at

receiving station and block section is clear [free] of trains. If the track indication of that particular block section is showing 'Red' then the following actions are to be performed by the SM on duty.

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

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 to the section to make the system normal.

The SM on duty shall record in his Train Register the resetting operation giving details of train number, time, Private Number exchanged with SM in rear, giving reasons for the resetting operation. If the axle counters functioning properly now, then Block Section cleared indication 'GREEN' will appear on the panel and the concerned Block working will be normalized.

If the axle counter section indication does not appear 'Green' and continues to show 'RED' indication, the concerned Block instrument shall remain suspended and failure intimation to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

6.0 MAIN SIGNAL LAMP FAILURE INDICATION AND BUZZER ACKNOWLEDGMENT:

LED signal lamps are provided for main signals at this station. In case failure of LED signals will be indicated by the appearance of 'RED' light on VDU along with audible buzzer, which can be acknowledged and muted by pressing the 'SIGNAL FAILURE ACKNOWLEDGEMENT' button icon. However the RED light will continue to glow until the LED lamp is replaced by a new lamp. For rectification of failure SM on duty should inform the concerned S&T staff.

6.1 POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND POINT FAILURE ACKNOWLEDGEMENT:

Whenever there is failure of point due to non-setting, point failure indication flashing light appears near the point button icon along with point failure Buzzer.

The buzzer stops when the point failure acknowledgement button icon is pressed, but the flashing light above the ACK button shall continue to glow. The flashing light at the concerned point zone can identify the defective point. After the failure is rectified, the flashing light above the 'POINT FAILURE ACK' button will disappear.

6.2 SHOWING OF COUNTERS:

Counter icon has been provided on the VDU. When selected a drop down menu will appear indicating the following counters.

1. Emergency Route Release.
2. Emergency Point Operation.
3. Emergency Crank handle release.
4. Emergency gate release

When the pointing device is placed any one of the menu the latest counter number will pop-up on VDU.

7.0 TRACK CIRCUITS:

All lines are track circuited from Home signal to Advanced starter signals at either direction of the yard. Approach Track Circuit (5 Rail lengths) for Calling-on signal are also provided in rear of the Home signals in both directions. In addition there are (5 Rail length) track circuits beyond Advanced starter Signals in both the directions for replacement of Last Stop Signal. Indications for the above track circuits are available on VDU at SM's office. Yellow strip on VDU indicates 'ROUTE IS SET AND TRACK CLEAR' and Red strip indicates 'TRACK OCCUPIED CONDITION'.

- 7.1** On account of the doubtful operation of any track circuit by a light vehicle including self-propelled vehicle such as motor trolley or light engine or tower wagon etc., indicating the occupancy/clearance of track, it is necessary that the Station Master on duty satisfies himself that the said vehicle has cleared the point zone track circuits by observing the track indications of the track on either side of the crossovers by positively checking the 'entrance' and 'exit' track circuits are showing occupancy and clearance in accordance with the train movement.

8.0 TAKING OFF CALLING-ON SIGNAL:

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

To take off Calling-on signal the train must come to stop at the foot of the home signal, occupying the track circuit (1AT, 2AT etc). as the case may be) in rear of the Home signal. When a train occupies the track circuit, a RED light strip will appear on the VDU. The particular route on which the train is intended to be received shall be set by selecting and setting desired route through VDU by SM on duty. After a lapse of 60 seconds, the Calling-on signal clears. Calling-On signal below Home signal white light will glow at the concerned Calling-on signal on the VDU.

9.1 RELEASE/CANCELLATION OF ROUTE:

Normally when a train is received on any route or dispatched, the route illumination will disappear automatically after passage of the train suggesting that the route is released. When the route is not released automatically after passage of train over it or when SM on duty intends to cancel the route set by him shall follow procedure for cancellation of route described in para 4.1 of APPENDIX-B above.

NOTE:

UP and DN Calling-on signals are to be manually cancelled after the passage of the train to release the route.

9.2 REPLACEMENT OF SIGNALS TO 'ON':

Signals are replaced to 'ON' automatically by the passage of a train beyond the signal. It will not be possible to re-clear the signal again unless the due process for clearing the signal is repeated again. For replacement of any signal to 'ON' position manually, the SM shall follow para No. 3.4 of APPENDIX-B.

9.3 INTERLOCKING OF SIGNALS:

DN Advanced starter is interlocked with Block Instrument of section LPG-BXQ and UP advanced starter signal is interlocked with Block Instrument of section LPG-RGL in Line Clear position.

The Block Instrument cannot be made normal unless the respective Home signal is put back to 'ON' and the respective Block Section monitored by Axle Counter is clear of trains. Signals once taken 'OFF' can be put back to danger in case of emergency by following para no. 3.4 of APPENDIX-B even when the SM's Key is withdrawn from VDU.

9.4 PILOTING OF TRAINS IN TO STATION YARD.

Whenever Home signal becomes defective, trains can be admitted by taking off Calling-on signal. Whenever both Home signal and Calling-on signal failed, all trains will be piloted in vide SR. [Refer SR 3.69.06].

9.5 PILOTING OF TRAINS - OUT OF STATION YARD:

When the starter signal has become defective, and O/G route does not appear on VDU the Station Master on duty shall advise the on duty TPM to set all points correctly for the outgoing trains. Then he shall clamp and padlock the same under the supervision of SM on duty. Then the SM on duty shall hand over the pilot memo T/369(3b) (along with the other authority if necessary) to the on duty TPM. The TPM on duty shall hand over the authority to the Loco pilot of the train and display proceed hand signal at the foot of the starter vide SR. [Refer SR 3.70.03].

In case the Advanced starter signal has become defective, such signal shall be passed on the written authority on the form T/369(3b). The TPM shall hand over the pilot memo in form T/369(3b) to the Loco pilot after the train stopped. [Refer SR 3.70.02]

9.6 SHUNTING:

Caution aspect of starter signals can be used for forward shunting up to Advanced Starter. For back shunting individual shunt signals No.3 and 4 provided at both end of the yard shall be used. Shunt signals for shunting in sidings have been provided and Shunt signals for dispatch /reception of trains to/from sidings have been provided. Private number should be exchanged between SM/LPG and SM of Bhusan Steel plant siding, M/s Aryan Ispat siding and Aditya Aluminium sidings along with slot for Aditya Aluminium siding (MGR) for UP and DN direction. For taking OFF Shunt signals refer Para no. 3.4.2 of APPENDIX-B.

10 VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAIN INTO STATION YARD:

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

11 CRANK HANDLING/EMERGENCY OPERATION OF POINTS:

Crank handle operation is interlocked with the Signaling and interlocking system at this station. Key for Crank handle keys are normally locked inside the RKT instrument inside Location boxes in the yard and can be taken out only when all the signals leading are in the 'normal' position and the route is not locked for whatever reasons. Crank handle can be transmitted or released by following procedure as laid down in Para No.3.5 of Appendix-'B'. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted to both ends of the yard.

12. OBSERVATION OF TRACK CIRCUIT AFTER STABLING OF TRAINS ON RUNNING LINES:

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

on duty is not satisfied with the proper functioning of the track circuits on which the train was earlier stabled, the signals leading on the line shall be suspended and the S & T maintainer/SSE(Signal) to be informed for rectification of the failure.

13. **LOCKING OF RELAY ROOM:** Refer para No.-4.2 of main SWR.
14. **MAINTENANCE OF S&T INSTALLATION AND ADHERENCE TO MAINTENANCE SCHEDULES:**
Regular maintenance of the S&T installations, adherence to schedules of maintenance testing of points, track circuits, level crossing gates, associated interlocking apparatus cables and the interlocking functional tests is must for safe and satisfactory working of these installations at this station.

The tests, checks and replacements etc., shall confirm to the schedules of maintenance as indicated in the Signal Engineering Manual as also as per the current and extant instructions/circulars on the subject.
15. **PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF AN INTERLOCKING GEAR:**
In case of failure of any interlocking gear at the station, the failure report should be communicated by the Station Master to the sectional Maintainer, the SE(Signal) of the section and others through a memo as per GR and SR 3.51.04 and 3.68.04 and document all such transactions.
16. **INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:**
Before declaring a point as defective, the setting of the point on the route to which it applies shall be inspected by the Station Master on duty.
17. **RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:**
After receipt of the failure information, the sectional Maintainer shall attend to the failure after giving a 'Disconnection Memo'. After rectification of the fault, the Sectional Maintainer shall give 'Reconnection Memo' detailing the rectification. Thereafter the Station Master on duty shall personally check this defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective apparatus in terms of SR.3.68.04 (C) and (D).
18. **PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:**
Whenever any normal maintenance or special works for major renewals etc., are involved, the Signal and Telecom department should preplan these works. Field staff and the Inspector of the section should give to the Station master in writing 'advance intimation' about this work in terms of GR and SR.15.08.01.
19. **EMERGENCIES:**
Notwithstanding, anything contained in the aforesaid para as when equipment is found defective and unsafe for passage of trains, the Signal and Telecom staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of the defect or damage to the interlocking installation to the Station master and take the Station Master's acknowledgement. After this, the usual practice of exchange of disconnection memo and reconnection memo can follow. The Station Master must act promptly on such messages and take adequate precaution treating the S&T installation as defective and pass trains over the affected interlocking equipment's according to extant instructions as contained in GR and SR.3.77.
20. **PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL POINTS AND USE OF EMERGENCY CRANK HANDLE:**
- 20.1 Whenever a Signal or a Point becomes defective, any movement over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at the Station.

- 20.2** In case of failure of Signal or a Point and in case the Point cannot be operated from the VDU, the emergency Crank Handle which is interlocked with the system has to be extracted and the following procedure has to be observed.
- 20.3** One common emergency Crank Handle is provided for all the Motor operated Points of a group. This is mechanically riveted to the Key of RKT. This Key along with Crank Handle can be released from the RKT by following procedure vide 3.5 of appendix-B. The Station Master on duty in case of Point Motor failure will take out the Crank Handle and set the Point manually by inserting Crank Handle on the Motor.
- 20.4** When the Crank Handle is removed from RKT for operation of the defective Motor Operated Points, the responsibility for its safe custody rests with the SM on duty till it is replaced back in RKT and sealed by Signal Maintainer.
- 20.5** The case of failure of Motor Operated Points should be promptly reported to the concerned SE(Signal)/ESM for immediate rectification.
- 20.6** Whenever an emergency Crank Handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the Points will be treated as defective till the Emergency Crank Handle is returned back to Station Master on duty.
- 20.6** Before parting with the Emergency Crank Handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.
- 21.0** The Emergency Crank Handle Register is to be maintained by the Station Master on duty wherein the particulars of usage of the Emergency Crank Handle must be recorded as per operating manual.
- 22.0 INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:**
- 22.1 INTERLOCKING WITH HOME SIGNALS:**
- All the UP and DN HOME Signals are Electrically interlocked with the respective DLBI, so that before the handle of the Block Instrument can be turned from TRAIN COMING FROM position to LINE CLOSED position of UP or DN direction as the case may be must be in their NORMAL position.
- 22.2** The DN advanced starter signal is controlled and interlocked with Block Instrument of section between LPG-BPSL Block Cabin & UP Advanced starter signal is interlocked with Block Instrument of section LPG-RGL so that this Signal cannot be taken OFF until the handle of the concerned Block Instrument is in 'LINE CLEAR' position.
- 22.3 SUSPENSION OF LAST STOP SIGNALS:-**
- When the block instrument for section LAPANGA-RENGALI or LAPANGA-BPSL Block Cabin is suspended with its handle in any position for whatever reason the concerned Last Stop Signal controlled by the Block Instrument must be treated as suspended and trains shall be Piloted Out.

23.0 NORMALISATION OF THE BLOCK AXLE COUNTER AND OF BLOCK WORKING BY RESETTING FEATURE:

- 23.1** Digital Axle Counters have been provided on both UP and DN line Block Sections between LPG-BPSL Bock Cabin and LPG-RGL.
- 23.2** The occupation and clearance of the axle counter section are indicated on the VDU by 'RED' and 'GREEN' light.
- 23.3** If any Block proving Axle Counter [LVCD] section fails, the Last Stop Signal at the rear station cannot be taken 'OFF' and Block instrument at advance Station cannot be turned to 'Line Closed' position after arrival of a train and in such case, resetting of last Vehicle Checking Device is to be resorted to either Section.
- 23.5.** No train shall be allowed on signal to leave a station in any particular direction unless: -
Track clear indication is available for the relevant Axle Counter track circuited portion and Last Stop Signal is taken OFF. [Refer Para No:5 of appendix 'B' for procedure of resetting of LVCD Axle counter].

24.0 TELECOMMUNICATIONS:

- (i) Telephone attached with double line lock & Block Instruments for either side block stations.
- (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.
- (viii) Telephone is provided between Station and L.C.Gates at KM528/27-29(UP), 528/28-30(DN) & KM526/19-21(UP),526/20-22(DN) .
- (ix) Telephone connection is provided between Station and M/S Bhusan Steel Plant Siding, M/S AIPL siding and M/S Aditya Alumina siding.
- (x) Telephone is provided between SM and TPC.

NOTE:

- (i) For obtaining line clear, VHF should be used as a last alternative and not as a sole means of communication.
- (ii) VHF and Walkie Talkie sets should not be used for unnecessary discussions with Loco Pilots, Guards or any other staff.
- (iii) The on duty SM shall use the above electrical communication instruments stated in Para-24.0 from item No. (i) to (vi) strictly in order of preference for obtaining/granting line clear vide SR 14.01.01. In case of failure of any of the above means of communication the SM on duty shall work vide SR 6.02.06

25.0 FAILURE OF COMMUNICATION / FAILURE OF BLOCK INSTRUMENTS:

- 1) In the event of partial 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 partial 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 partial 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 partial failure / suspension of block instrument or block telephone attached to the block instrument, or station to station fixed telephone or Railway auto telephone or BSNL phone or control telephone line clear shall be obtained on the VHF sets exchanging ID number supported by PN provided that the instructions contained in SR 14.01.02 are followed vide SR 6.02.06 (1) (d) Chapter-III Part-I of Block Working Manual.

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

26.0 (A) POWER SUPPLY ARRANGEMENT FOR THE SIGNALLING INSTALLATION:

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

- i) Normally supply from AT connected to OHE Traction distribution [230 V 50 Hz].
- ii) Stand by supply from Odisha State Electricity Board (OSEB) [Single phase 230V-50Hz].
- iii) Stand by supply from Diesel Generator set [Single phase 230V-50Hz].
- iv) Normal power supply [Single phase 230V-50Hz] to the Signaling & Interlocking installation at the station is drawn from the traction power sources. Whenever traction power supply fails SS/SM on duty shall operate the rotary change over switch provided in the CLS power panel at SM's office connecting the power supply from the healthy sources to the installation.
- v) The SS/SM on duty however maintain the record of AT power supply/ local supply/ DG power supply and he must promptly report the failure of AT supply immediately through the section controller and to the concerned Electrical Staff and S&T maintenance staff.
- a) A change over switch is provided in the SM's office with the three power supplies viz AT supply, local power supply and DG supply for changing the switch to the required supply position. The availability of the supply is indicated by luminous indicator above the circuit breaker for each supply.
- b) Normally the switch will be kept towards AT supply position. Whenever the power block is to be given on the line, on duty SS/SM must ascertain the power is available on the local supply and change over the switch to desired position e.g if power block is to be given, local supply and DG set working must be available.
- c) In case of failure of AT supply without any power block, on duty SS/SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is UP and when tripped, it goes DN). In case of failure of AT supply without any power block, the local supplies shall be utilized by operating the changeover switch. If the circuit breaker is tripping, even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEEE/GEN and CTFO/PSI/TRD/GEN for prompt rectification.
- d) Whenever there is failure of AT supply, the on duty SS/SM shall take prompt action to inform to all concerned for the rectification, The on duty SS/SM himself, during his daily checks, shall test the availability of AT power supply and make entry in station dairy duly initiating action for rectification of failure, if any.

(B) WORKING OF INTEGRATED POWER SUPPLY [IPS], INDICATIONS & ACTION TO BE TAKEN BY SS/SM ON DUTY

- i) Power supply to the signaling installation is fed through IPS installed in the S&T power supply room. The IPS is normally fed through AT traction power. Standby power supply are through local supply and DG supply. One change over switch is provided in the SM's room for selection of output of AT traction power supply or local power supply or DG supply. The available traction/local supply/DG supply is fed to the IPS through auto-change over switch provided in IPS.
- ii) The IPS system is connected with Battery as a back-up power source for safe working during transition of power and in case no 230v AC supply is available due to any reason.

iii) In the event of failure of all the sources of 230V, 50 Hz AC supply, the signalling system shall be fed by power generated by back-up battery Bank connected to IPS for a limited power of 08 to 10 hours. The health of battery bank is monitored through one IPS monitoring Panel provided in the SM's room which shall display the voltage 110V DC [Battery bank provided as back-up source of power supply]. Depending upon the health of the Battery Bank and the system, the following indication/alarm will appear on the Remote Monitoring Panel, their implications and action to be taken by SS/SM on duty is tabulated below.

SN	Instruction	Healthy of Battery Bank /Equipment	Visual Indication	Audio Indication	Action to be taken by SS/SM on duty
A	-	50% DOD (Depth of Discharge)	Red	Alarm	Alarm shall be acknowledged by SS/ SM on duty.
B		60% DOD	Red	Alarm	----Do----
C	System Shutdown	70% DOD	Red	Alarm	Signal feed cut off and all DC-DC converters to work. Audio alarm will continue till power supply is restored.
D	Call S&T Staff.	Equipment fault	Red	Alarm	Failure of any module will give the alarm in SM's panel. Alarm shall be acknowledged by SS/SM on duty for audio cut-off.

On duty SS/SM in each shift shall check and record the readings, indications, etc in the station diary duly initiating rectification of failures of IPS system, if any. In the event of failure of remote monitoring ASM console due to any reason when traction power, local power and DG supply failed the SS/SM on duty shall inform concerned Electrical staff immediately.

In case 'Call S&T staff' or 'system shut down' indication appear on the remote monitoring panel of IPS and/or mal-functioning of the remote monitoring panel SS/SM on duty shall inform the same to concerned S&T staff immediately.

NOTE: In case of failure of all AC supply sources IPS Battery Bank can provide power supply maximum up to 08 to 10 hours before system shut down indication of IPS.

APPENDIX - 'C'

ANTI COLLISION DEVICE (RAKSHA KAVACH)

NIL

S.Mishra
DSTE /SBP

Sandeep Kumar
DOM(M) /SBP

APPENDIX - 'D'

1.0 STATION MANAGER (INCHARGE) :

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

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

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

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

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

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

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

He is responsible for booking all staffs working under him for PME and Refresher Course / Safety camp in their due time. His Special attention is drawn out to chapter II of General and Subsidiary Rules and GR 5.01 to 5.08 with relevant Subsidiary Rules, Chapter – 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 like Public agitation, strike and Rail Roko affecting movement of traffic 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 and Safety records maintained at the station , and also ensure compliances of commercial records if commercial staff is not provided. He is responsible for overall supervision of the station.

His special attention is drawn to chapter No.II of G & SR (Amendment) 2010 and GR 5.01 to 5.08 with relevant SRs. He shall follow the instruction laid down in SR 3.68.01© & (d) and SR 14.07.01 and BWM 2.09 (e). He shall conduct surprise night inspection, safety meetings and fire drills. He shall maintain good public relation as well as look after passenger's amenities and be helpful to travelling public.

1.1 ASSURANCE REGISTER:

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

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

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

The declaration shall be renewed in the following cases: -

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

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

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

3.0 **ACCIDENTS:**

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

4.0 **TESTING OF POINTS AND SIGNALS:**

The Station Superintendent shall test the working of the reception signals daily during the day when there is no train due to arrive/leave the station. He shall also test the working of points, crossings, Crank handle, etc. and record the result in the Station Master's diary.

5.0 **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 Superintendent in charge. He shall assist the Station Superintendent in charge for the up keep of the station in all aspects.

Station Master on duty who makes an entry in the train signal register must continue on duty till all the entries pertaining to the trains are completed vide Subsidiary Rule 14.07.01.

He is responsible for working beyond this period when called upon to do so in the exigencies of services. He will follow SR 3.68.01© & (d), SR 14.07.01. Their special attention is drawn to Chapter II of G & SR (Amendment) 2000 and GR 5.01 to 5.08 with relevant SRs. As an Assistant to the SS, he shall follow the instructions given to him by the Station Superintendent.

6.0 HANDING OVER AND TAKING OVER CHARGE:

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

7.0 TRAFFIC POINTSMAN:

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

- (i) Delivery of authority to proceed and caution order etc. to the Loco Pilot of train.
- (ii) Correct setting and locking and crank handling of points for reception/dispatch and shunting operation under the supervision of Station Master.
- (iii) To couple and uncouple vehicles under the supervision of Station Master/Guard when shunting operation is in progress.
- (iv) Piloting and hand signalling of trains when necessary.
- (v) Knowledge of hand signals, detonators and their use.
- (vi) Protection of line in emergency and fog signalling.
- (vii) Exchange of signals with the Loco Pilot and Guard of passing trains as directed by the Station Master.
- (ix) Loading/unloading of parcels, luggage and packages to and from the train and watching the packages and other materials by properly stacking in the station premises.
- (x) Dusting of station office, filling up the fire buckets with sand/water and getting train interact arrival register (T/1410) signed by the Guard as and when required.
- (xi) Serving messages and any other duties entrusted to them by the SS/SM from time to time.
- (xii) Uses of emergency crank handle for setting of points.
- (xiii) To supervise shunting as per SR 5.13.03.
- (xiv) They must be thoroughly conversant with the GR 3.38, 3.46, 3.77(I), 5.09, 3.52 to 3.60, 3.62, 5.13, 5.15, 5.16, 5.21, 5.23 & SRs there to and their special attention is drawn to chapter No.II of G & SR (Amendment) 2000 also.
- (xv) When necessary, they will work in the Goomties for observing and reporting the complete/incomplete arrival/departure of trains as per the order of the SM on duty in case of failure of Axle Counter/Track Circuit.

GENERAL

- i. All staff should be in uniform while on duty and follow the rosters issued by DPO/SBP from time to time.
- ii. A set of Red and Green flags and Tricolor hand signal lamps will be part of the essential equipments of staff while on duty. They shall not leave the station except when required by the SM on duty or with his permission. They shall comply with SR 4.42.02 (b) & (c).

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

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

Srl No.	Description	Quantity
1.	Detonators	10 in tin case
2.	Battery operated LED based flashing Hand Signal lamps.	04 Nos.
3.	Hand signal flags	04 sets.
4.	Safety chains with pad locks	12 Nos.
5.	Wedges	12 Nos.
6.	Fire buckets (with sand and water)	06 Nos.
7.	Clamps with padlocks	20 Nos.
8.	First aid Box	01 No.
9.	Fire extinguisher	02 No.
10.	Stretcher	01No.
11.	Blanket	01 No.
12.	Block suspension Board	02 Nos
13.	"Motor Trolley on Line" boards	02 Nos.

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

NIL.

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STATION WORKING RULES FOR 25KV AC ELECTRIC TRACTION LAPANGA STATION

1. **GENERAL & SUBSIDIARY RULES:**

- a) The rules applicable to electrified section have been given in chapter-XVII of the General Rules and in the subsidiary Rules made here under for electric traction. The General principles governing operation and maintenance of Traction Overhead Equipment, Electric locomotives, Signal & Telecommunications installations have been given in the A.C. traction manual. These rule books and an extract of the relevant paras of A.C.Traction Manual, shall be kept with the concerned staff shall make themselves thoroughly familiar with the same (GR. 17.01).
- b) Brief reference to important rules required to be followed by Station/ Yard staff in their day-to-day work has been given in this Appendix. These are, however, illustrative and not exhaustive.

2. **GENERAL SAFETY PRECAUTIONS:**

- a) All staff are warned that contact with or very near (within 2 meters, unless protected by a screen as per rules) to live portion of the 25 KV Traction Overhead Equipment is dangerous and shall be strictly avoided.
- b) No work on overhead lines or in the zones within 2 meters of any live equipment shall be carried out unless a regular 'PERMIT TO WORK' has been obtained from the authorized Traction staff and the line has been made dead and earthed as per rules (GR 17.04) and ACTM para No.20600 to 20619 Vol.II Part. I.

3. **SECTIONING DIAGRAM (Station Working Rules Diagram for Electric Traction)**

- a) A sectioning diagram No.TJRE/OHE/RE/LPG/05B indicating schematically the lines, which have been equipped with, for electric traction is exhibited. The diagram also indicates different electrical sections (Elementary Sections) the Controlling Switches (Isolators switches or interrupters), insulated overlaps and section insulators where the overhead equipment is electrically separated. The limits of an electrical section (Sub-Sector or Elementary section) are indicated by the relevant section. A copy of this diagram is also enclosed with these special working rules and will form part of the same.
- b) For all-purpose connected with Train movements and Power Blocks, this diagram is the only authorized document to be referred to the normal position of various switches is indicating on the diagram.

4. **UNWIRED TRACKS:**

No electric locomotive with pantograph raised shall under any circumstances be taken to an unwired sections.

5. **OPERATING OF SWITCHES:**

- a) All switching operations shall be carried out in accordance with the instructions of the Traction Power Controller except in respect of switching operations for local blocks, which may be carried out by authorized traction staff, after they have been granted local blocks by the Station Master in accordance with S.R. 17.04.09 and ACTM para No. 20600,20601 of Vol.II, Part.I.
- b) "In case of emergency, authorized and trained station staff may open Isolator switches under specific instructions of the Traction Power Controller (G.R. 17.04 14-B) with exchanging of Private Nos. to perform the operations of the following isolator switches as well as any other isolators within the station limit.

Sl.No.	Isolator No.	Loc. No.	Sl.No.	Isolator No.	Loc. No.
1.	SM – 195	530/7	15.	SS-AIL-03	AIPL-00/15
2.	SM – 196	521/15	16.	SS-AIL-03A	AIPL-01/09
3.	SS - 231	LPG/1149	17.	SS-AIL-04	AIPL-00/18
4.	SS - 232	530/12	18.	SS-AIL-04A	AIPL-01/06
5.	SS - 233	529/47A	19.	SS-BPSL-01	BPSL-00/09

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6.	SS – 233A	LPG/1043	20.	SS-BPSL-02	BPSL-00/14A
7.	SS – 234	530/8A	21.	SS-BPSL-03	BPSL-00/13A
8.	SS – 235	529/7	22.	SS-BPSL-04	BPSL-00/19
9.	SS – 236	LPG/1048	23.	SS-BPSL-05	BPSL-00/50A
10.	SS – 237	LPG/1107A	24.	SS-BPSL-06	BPSL-01/115
11.	SS – 237A	529/11A	25.	SS-BPSL-07	BPSL-01/125
12.	SS – 239	529/47A	26.	SS-BPSL-08	BPSL-02/16
13.	SS-AIL-01	LPG/1066	27.	SS-BPSL-09	BPSL-02/31
14.	SS-AIL-02	AIPL-00/06			

6. **POSITION OF SWITCH HANDLES (ISOLATORS):**

When a switch is in the closed position, the operating handle of the switch is at the top.

7. **LOCATION OF KEYS OF SWITCHES:**

The keys for the padlocks of various isolator Switches are kept in the ASM's Office in a box with a glass mounted cover (17.04.13). The Station Master shall daily check the keys of switches of the isolators and report any defects or deficiency to the Traction Power Controller. In the event of breaking of glass box the procedure stipulated in SR 17.04.13 (b) has to be strictly followed.

8. **PROCEDURE AND PRECAUTIONS FOR OPERATING ISOLATORS:**

The procedure for operation of isolator switches have been given in G .R. 17.04.15 and S.R 17.04.14 (b). Isolator switches shall not be opened when carrying any load. Before opening/closing, on duty SM will get confirmation from TPC supported by Private number. The procedure stipulated in SR 17.04.15(c) must be followed.

Isolator switches may be opened only after ensuring :-

9. **POWER BLOCK:**

- a) The detailed procedure for obtaining power block has been given in G.R. 17.04.02, 17.03.03 & 17.04.04) and ACTM Para 20603,20604,20611,20612 & 20613 which must be rigidly followed except in case of emergency.
- b) The sequence of switching operations for granting and cancelling the Power Block for a particular section, are included in the Annexure. These shall be strictly followed by all staff. Failure to follow the sequence indicated is likely to lead to dangerous consequences. The protection of dead section is achieved by blocking the Concerned line in the VDU and placing red button collars on concerned buttons operating points and /or signals.

10. **PROTECTION AT THE TIME OF POWER BLOCK:**

- a) All sections over which the Power Block has been granted shall be protected against entry of Electric Locomotive with pantograph raised from either end during the period of the Power Block (G.R. 17.04) and ACTM 20620, 20621 to 20627 of Vol.II, Part.I strict enforcement of longitudinal and transverse protection as per the Annexure attached shall be ensured before imposing power block. If there is/are locomotive/s on the section over which the power block to be given, the Loco Pilot of such locomotives shall be given a memo by the Station Master on duty to lower the pantograph and not to raise it until further instructions and acknowledgement shall be obtained. The Loco Pilots shall not be given instructions to raise the pantograph till the power block is cancelled.
- b) Station Master or station staff conducting shunting operation with electric locomotive shall ensure that under no circumstances, any electric locomotive approaches near the traction structure limiting elementary sections over which the power block has been granted. Limits of each electrical section at a station are shown in the Station Sectioning Diagram.

11. **SECTION INSULATORS:**

In order to isolate main and loop lines on different grids in the yard. Crossover/Turn-out connecting main and loop lines of different grids of the yard, are provided with section insulators, So that, when one line/or grid is made electrically dead and there be any fault on the same, the other line/grid is not affected. The speed of the electric locomotives with pantograph raised over such section insulators shall not exceed 50 KMPH subject to other speed restriction which may be in force. When one of the two sections separated by a Section Insulator is dead, the

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pantograph of the electric locomotive on the live section shall not proceed closer than 30 Ft. (10 Meters) towards the section insulator marking the end of the dead section.

12. **BREAKDOWN OF TRACTION OVERHEAD EQUIPMENT:**

All breakdown or defects noted or reported on the Traction overhead equipment or any other traction equipment including bonding shall immediately be reported to the Traction Power controller (G.R. 17.03.02) and ACTM Para 20605 of Vol.II Part I. Necessary Caution Order should be issued to the Loco Pilot concerned as directed by the Traction Power Controller observing the existing rules regarding issue of caution orders.

13. **REGISTER OF MESSAGES:**

All message relating to faults on the traction Overhead equipment, operation of switches custody of keys of out-door switches and other important communication in connection with the operation and maintenance of Traction Overhead equipment shall be recorded serially in a register by both the sender and the receiver indicating the time at which the message are received or exchanged (G R. 17.04.12) and ACTM Para 20610, Vol II Part I.

14. **MOVEMENT OF DIESEL ENGINES OR TRAINS HAULED BY SUCH ENGINES:**

Goods or passenger trains hauled by other than electric locomotives may be allowed to pass through the dead section subject to the following conditions :-

- a) This has not been prohibited specifically in the power block message.
- b) Other than Electric trains hauled by such engines shall be brought to a stand at the station preceding the station/section at which power block is granted and the Station Master of this station shall satisfy himself by personal inspection that there is no electric locomotive in the train.
- c) He shall also give a Caution Order to the Loco pilot of such engine or train, warning him of the power block ahead and instructing him to watch for hand signals and observe them.
- d) No Station Master shall give line clear or lower signals for a train to run over a section under power block unless he has received an assurance (supported by Private Number) from the Station Master of the preceding station that there is no electric locomotive or Inspection Car with pantograph raised in the train (ACTM 20627, Vol.II, Pt.I).

Note: For purpose of this Rule a Dead Engine dispatched as a vehicle shall not be considered as an Electric locomotives.

15. **ELECTRIC LOCOMOTIVES :**

Provisions included in A.C. traction Manual must be completed with in case of double heading or banking by electric locomotive and precautions indicated therein must be complied with when dispatching locomotive(ACTM 30636, Vol III.).

16. **ESM :**

Any direct contact or close proximity to 25 KV line conductors is dangerous, the station ESM climbing up the Signal post for removing or fixing or cleaning the signal should not carry any long article which may accidentally touch or come in close proximity to live conductors. The ESM shall also be warned against bringing any part or body near live conductors.

17. **CRANES :**

No crane shall be worked on or near Traction Overhead equipment, unless such equipment is first made dead and earthed and an authorized representative of the OHE section is present (S.R. 17.04.17 (a) & (b)).

18. **WORK ON ROOF OF ROLLING STOCK:**

No person shall climb on the top of the Engine or Tenders or on the roofs of carriages, or wagons, when those vehicles are located beneath Overhead equipment except, when a regular 'Permit to work' has been obtained from authorized Traction Staff and the overhead equipment has been made dead and earthed (GR 17.05(02)) and ACTM Para 10402 & 10403 of Vol.I.

19. **BLOCK INSTRUMENT OR ANY OTHER ELECTRICAL SIGNALLING EQUIPMENT:**

The Station Master/Cabin master on duty must always watch for any unusual working in the Block

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instrument or any other signaling equipment, which may arise due to voltage, induced from traction system. The Block instrument or the signaling Equipment must be suspended whenever there is any signs of unusual working and the nearest signal and Telecom, maintenance Inspector may be contacted to inspect and certify the same. In the event of a break of the OHE, the Station Master Master must immediately check up whether all Block and signaling equipment are working normal before permitting any train movement.

20. **TELECOMMUNICATION CIRCUITS:**

Refer Para 5.0 of main body and Appendix "B" of this SWR.

The details of the Telecommunication facilities available on the electrified sections and the use of the same have been given at ACTM Para 10213, 10429 of Vol. I and Para 20703 of Vol. II part I.

21. **ELECTRIC SHOCK:**

The Station Master shall exhibit prominently the instructions issued regarding the treatment to persons suffering from electric shock in the Station/Yard Office and shall ensure that all Class-III staff are familiar with those instructions (shock treatment) chart provided in SM's office..

22. **FIRE:**

Regarding fire on or adjacent to any electrical equipment refer G R (6:10) and SR there to..

23. Nothing in these rules amends or supersedes any General or subsidiary rules or instructions included in AC Traction Manual. These working rules shall be read as supplement to the aforesaid Rules Books and also to the existing Station Working Rules of the Station.

24. **AMENDMENTS OR SUPPLEMENTARY CORRECTION SLIPS:**

Any amendment to these Working Rules or any of the Annexure will be notified by a correction slip to the Station Working Rules. The correction slips will be serially numbered and it is the responsibility of SM in charge of a station to bring the contents to the notice of all staff concerned and take their acknowledgement.

25. **CONTINUOUS WATCH BY INSPECTING STAFF:**

The Inspecting staff of Operating, telecommunication and Traction Departments shall make regular checks at all points to which these special working rules are supplied to ensure that the rules are corrected up-to-date and the staff concerned are fully conversant with the rules and abide by them.

NOTE: Whenever the codes 'GR' & 'SR' appear in these special working rules, please refer to the General and Subsidiary Rules for 25 KV AC Electric Traction, chapter- XVII.

EAST COAST RAILWAY TRACTION – DISTRIBUTION

SAFETY PRECAUTIONS AND ESSENTIAL INSTRUCTION FOR RUNNING AND
operatiNG STAFF working on aC Traction area

DO(s) and DON'T(s)

A. FOR ALL STAFF

a) DO(s)

1. In case of fire on Electric Traction Equipment of Wires.
 - i. Inform traction Power Controller.
 - ii. Extinguish fire by special extinguishers, if available.
 - iii. Ensure no water jet is used under any circumstances.
2. Anything unusual on Traction Wires or Electric Locomotive inform traction Power Controller or nearest Station Master.
3. In emergency Traction Power Controller can be contacted on emergency telephone system. (Sockets for connecting emergency telephone are provided at intervals of approximately every kilometer and direction to nearest socket is indicated on OHE masts).

b) DON'T(s)

1. Do not approach within a range of 2 meters (approximately 7 ft.) of any traction wires or live equipment.
2. Do not work on or near traction wires or any live equipment unless they have been made dead, earthed and permit-to-work obtained from an authorized traction staff.
3. Do not permit unauthorized persons to operate any equipment even if it be for making it dead.
4. Do not disturb any Earthing, Bonding or Traction Wires.
5. Do not enter any switching station or remote control centre unless specially permitted and accompanied by authorized traction staff.
6. Do not attempt to turn the person in contact with live traction wire either by touching him or with the help of wooden bamboo pole or by grabbing his clothing or with the help of rubber gloves or any other means. Under such conditions, contact the TPC , ensure switching off power supply and remove the person in contact with the live traction wire by using wooden bamboo pole or by grabbing his clothes or with rubber gloves if available only after ensuring from TPC that the power supply has been switched off.
7. Do not forget to give artificial respiration to the victim.

B. FOR RUNNING STAFF:**a) DO(s)**

1. Avoid slipping of wheels.
2. Load coal or oil in loose outside the electrified area only.
3. Keep a safe distance of 2 meters (7 feet) from traction wires while working on the locomotives.

b) DON'T(s)

1. Do not lift or raise your tools towards traction wires (keep the tools in their respective position immediately after use).
2. Do not take electric locomotive with raised pantograph to any unwired line, beyond power block working limit board or near the section insulators at the end of section under power block.
3. Do not climb on the locomotive (of any type) on the engine tender for any purpose, while under traction wire unless power is cut-off and permit to work obtained (for watering, use the water column from the ground with the special device provided for this purpose and open tank over by the special device provided).
4. Do not allow long articles like fixing rod, shovel or any other thing to protrude above the engine while on electrified tracks.
5. Do not direct any jet or spray towards the traction wires (jets or water, if necessary, may be used horizontally outside the safety zone of 2 meters (7 feet)).

C)**FOR OPERATING STAFF****a) DO(s)**

1. Ensure all staff is conversant with safety precautions.
2. Ensure that no electric loco is stabling with its panto-raised position in the power block section.
3. Report defects in traction wires of any electric locomotive or electric Multiple Unit Promptly to the traction Power controller.
4. Points and signals of the concerned line which give access to the sections under power Block is to be blocked by blocking the concerned line in VDU and placing red button collars on concerned buttons operating points and/or signals.
5. Observe procedures given in station working rules of 25 KV AC Electric Traction while operating isolator switches.
6. Ensure safe custody of isolator switch keys.
7. Ensure the section is protected by traction staff from all directions by banner flag during power block.
8. Suspend working of block and signals if single of unusual working are noticed. Always checkup block instruments at signaling equipment when any breakdown in traction wires occurs.
9. Instruct S & T staff to see that while he goes up the signal post he does not carry any long rod or article likely to be brought within the danger zone of 2 Mtrs. (Approximately 7 feet) of the traction wires.

b) DON'T(s)

1. Do not permit an electric locomotive or multiple units with raised pantograph to approach any section under power block beyond Power Block working Limit Board or near section insulators.
2. Do not permit any crane to work adjacent to live traction wires.
3. Do not permit your staff to approach live traction wires within the danger zone of 2 meters (approximately 7 feet).
4. Do not permit electric locomotive with raised pantograph to enter any unwired section.
5. Do not take off signals for direct reception for any electric engine or train, if there is a power block within the adequate distance of the signal.

EAST COAST RAILWAY

STATION WORKING RULES FOR 25 KV AC ELECTRIC TRACTION FOR *LAPANGA* STATION

1. These rules shall be read along with the main working rules and appendices.
2. These rules apply only to Electric Trains or Electric Engines considered as such & indicate the protection required to prevent them from entering a SECTOR, SUB-SECTOR OR ELEMENTARY SECTION over which a Power Block exist.

Sl./ No.	Description of electrified section under P/B	Steps and Precautions to be taken during power block in respect of electric loco hauling trains or running light or standing		Sequence of Switching Operation for granting power block.	Sequence of Switching Operation for restoring OHE power.
		Longitudinal Protection	Transverse Protection		
	Sector :				
1.	Sector between RGL/TSS to JSGR/SP	i) Movement of Electric Trains/Locos shall not be permitted into RGL-JSGR on both UP & DN lines. ii) Line clear shall not be granted to/obtained from RGL and BXQ for Electric Trains/Locos on both UP & DN lines. iii) Reception and dispatch signals for both UP & DN lines shall be kept at 'ON'.	NIL	i) Ensure BX – 211 at RGL/TSS is in open position. ii) Ensure BM – 219 and BM – 220 at JSGR/SP is in open position. i) Open CB – 137 at RGL/TSS.	i) Close CB – 137 at RGL/TSS.

	Sub-Sector:
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2.	DN sub-sector between RGL/TSS to LPG/SSP.	i) Movement of Electric Trains/Locos shall not be permitted into RGL-LPG on DN line including DN Main line. ii) Line clear shall not be granted to RGL for Electric Trains/Locos on DN line. iii) DN Electric Trains/Locos can be dispatched towards BXQ from Common Loop Line No. 6, 7 & 8. iv) Electric Trains/Locos cannot be dispatched from Common Loop line (L/1, L/2 & L/3) towards BXQ. v) UP Electric Trains/Locos from BXQ can not be admitted into Common Loop line No. 1, 2 & 3. vi) Ensure that no Electric Trains/Locos is standing with its panto raised condition on DN Main & Common loop line (L/1, L/2 and L/3). vii) DN reception signals shall be kept at 'ON'. viii) DN dispatch signals for Line No. 1,2 3 & 4 shall be kept at 'ON'. ix) UP reception signals for Line No. 1,2 & 3 shall be kept at 'ON'.	Crossover point No. 52A/B, 60A/B, 64A/B & 88A/B at RGL end and point No.85A/B, 79A/B & 57A/B at BXQ end shall be kept at normal position only.	i) Open BM-212 at RGL/TSS. ii) Open BM-214 at LPG/SSP.	i) Close BM-214 at LPG/SSP. ii) Close BM-212 at RGL/TSS.
3.	DN sub-sector between LPG/SSP to JSGR/SP on DN line.	i) Movement of Electric Trains/Locos shall not be permitted into LPG - BXQ on DN line. ii) Line clear shall not be obtained from BXQ for Electric Trains/Locos on DN line. iii) UP Electric Trains/Locos from BXQ can be admitted into Common Loop line No. 1, 2 & 3 at LPG. iv) DN dispatch signals shall be kept at 'ON'.	Crossover point No. 51A/B at BXQ end shall be kept at normal position only.	i) Ensure BM – 220 at JSGR/SP is in open position. ii) Open BM-216 at LPG/SSP. ii) Open BM-218 at JSGR/SP.	i) Close BM-216 at LPG/SSP. ii) Close BM-218 at JSGR/SP.

4.	UP sub-sector between RGL/TSS to LPG/SSP.	i) Movement of Electric Trains/Locos shall not be permitted into RGL-LPG on UP line including UP Main line and Common Loop line (L/6, L/7 & L/8). ii) Line clear shall not be obtained from RGL for Electric Trains/Locos on UP line. iii) UP Electric Trains/Locos from BXQ can be admitted into Common Loop Line No. 1, 2 & 3. iv) Ensure that no Electric Trains/Locos is standing with its panto raised condition on UP Main & Common loop line (L/6, L/7 and L/8). v) UP reception signals for L/5,L/6,L/7 & L/8 shall be kept at 'ON'. vi) UP dispatch signals shall be kept at 'ON'.	Crossover point No. 52A/B, 60A/B & 88A/B at RGL end shall be kept at normal position only.	i) Open BM-213 at RGL/TSS. ii) Open BM-215 at LPG/SSP.	i) Close BM-215 at LPG/SSP. ii) Close BM-213 at RGL/TSS.
5.	UP Sub-sector between LPG/SSP to JSGR/SP on UP line.	i) Movement of Electric Trains/Locos shall not be permitted into BXQ-LPG on UP line. ii) Line clear shall not be granted to BXQ for Electric Trains/Locos on UP line. iii) UP reception signals shall be kept at 'ON'.	Crossover point No. 51A/B, 57A/B, 69A/B & 89A/B at BXQ end shall be kept at normal position only.	i) Ensure BM – 219 at JSGR/SP is in open position. ii) Open BM-217 at LPG/SSP. ii) Open BM-218 at JSGR/SP.	i) Close BM-217 at LPG/SSP. ii) Close BM-218 at JSGR/SP.
ELEMENTARY SECTION					
1.	E/S No.21202 on DN line between section RGL - LPG. Location from RGL/TSS to SM-196 of LPG at Loc. No. 529/34.	i) Movement of Electric Trains/Locos shall not be permitted into section RGL - LPG on DN line. ii) Line clear shall not be granted to RGL for Electric Trains/Locos on DN line. iii) Electric Trains/Locos can be admitted into Common Loop Line (L/1, L/2 & L/3) from BPSL & AIPL siding. iv) Shunting of Electric Trains/Locos shall be prohibited from L-3 to L-4 at RGL end. v) DN reception signal shall be kept at 'ON'.	Crossover point No.52A/B,60A/B , 64A/B and 88A/B at RGL end shall be kept at normal position only.	i) Ensure SS/234 of LPG at Loc.No. 530/8A is in open position. ii) Open BM-212 at RGL/TSS. ii) Open SM/196 of LPG at Loc. No. 529/34.	i) Close SM/196 of LPG at Loc. No. 529/34. ii) Close BM-212 at RGL/TSS.

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2.	E/S No.21204 on DN Main line at LPG. Location from SM-196 of LPG at Loc. No.529/34 to LPG/SSP.	i) Movement of Electric Trains/Locos shall not be permitted into DN Main line (L/4) at LPG. ii) DN Electric Trains/Locos from RGL can be admitted into Common Loop line (L/1, L/2 & L/3) but can not be dispatched towards BXQ on DN line. iii) DN Electric Trains/Locos stabled at Common Loop Line (L/6 , L/7 & L/8) can be dispatched towards BXQ on DN line. iv) UP Electric Trains/Locos from BXQ can not be admitted into Common Loop Line (L/1, L/2 & L/3). v) Ensure that no Electric Trains/Locos is standing with its panto raised condition on DN Main line (L/4). vi) DN reception and dispatch signals for DN Main Line shall be kept at 'ON'.	Crossover point No.85A/B, 79A/B & 57A/B at BXQ end shall be kept at normal position only.	i) Open BM-214 at LPG/SSP. ii) Open SM-196 of LPG at Loc. No.529/34.	i) Close SM-196 of LPG at Loc. No.529/34. ii) Close BM-214 at LPG/SSP.
3.	E/S No.21602 on DN line between section LPG - BXQ. Location from LPG/SSP to SM-198 of BXQ at Loc. No. 521/22.	i) Movement of Electric Trains/Locos shall not be permitted into section LPG - BXQ on DN line. ii) Line clear shall not be obtained from BXQ for Electric Trains/Locos on DN line. iii) DN dispatch signal shall be kept at 'ON'.	Crossover point No.51A/B at BXQ end shall be kept at normal position only.	i) Open BM-216 at LPG/SSP. ii) Open SM-198 of BXQ at Loc. No. 521/22.	i) Close BM-216 at LPG/SSP. ii) Close SM-198 of BXQ at Loc. No. 521/22.
4.	E/S No.21301 on UP line between section LPG - RGL. Location from RGL/TSS to SM-195 of LPG at Loc. No. 530/7.	i) Movement of Electric Trains/Locos shall not be permitted into section LPG - RGL on UP line. ii) Line clear shall not be obtained from RGL for Electric Trains/Locos on UP line. iii) DN Electric Trains/Locos from RGL cannot be admitted into Common Loop Line (L/6, L/7 & L/8). iv) UP dispatch signals shall be kept at 'ON'.	Crossover point No.52A/B,60A/B & 80A/B at RGL end shall be kept at normal position only.	i) Open BM-213 at RGL/TSS. ii) Open SM-195 of LPG at Loc. No. 530/7.	i) Close SM-195 of LPG at Loc. No. 530/7. ii) Close BM-213 at RGL/TSS.

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5.	E/S No.21303 on UP Main line including Common Loop line (L/6, L/7 & L/8) at LPG. Location from SM-195 of LPG at Loc. No.530/7 to LPG/SSP. (E/S No. X-235, X-237 & X-233 get automatically blocked)	i) Movement of Electric Trains/Locos shall not be permitted into UP Main line including Common Loop line (L/6, L/7 & L/8) at LPG. ii) UP Electric Trains/Locos from BXQ can be admitted into Common Loop Line (L/1, L/2 & L/3) also dispatched towards RGL on UP line from Common Loop Line (L/1, L/2 & L/3). iii) Ensure that no Electric Trains/Locos is standing with its panto raised condition on UP Main line including Common Loop line (L/6, L/7 & L/8) at LPG. iv) UP reception and dispatch signals for UP Main Line and Common Loop line (L/6, L/7 & L/8) shall be kept at 'ON'.	Crossover point No.80A/B at RGL end and point No. 89A/B & 69A/B at BXQ end shall be kept at normal position only.	i) Open BM-215 at LPG/SSP. ii) Open SM-195 of LPG at Loc. No.530/7.	i) Close SM-195 of LPG at Loc. No.530/7. ii) Close BM-215 at LPG/SSP.
6.	E/S No.21701 on UP line between section BXQ - LPG. Location from LPG/SSP to SM-199 of BXQ at Loc. No. 521/15.	i) Movement of Electric Trains/Locos shall not be permitted into section BXQ - LPG on UP line. ii) Line clear shall not be granted to BXQ for Electric Trains/Locos on UP line. iii) UP reception signals shall be kept at 'ON'.	Crossover point No.51A/B,57A/B , 69A/B & 89A/B at BXQ end shall be kept at normal position only.	i) Open BM-217 at LPG/SSP. ii) Open SM-199 of BXQ at Loc. No. 521/15. iii) Open SS-241 of BXQ at Loc. No. BXQ/1085.	i) Close SM-199 of BXQ at Loc. No. 521/15. ii) Close SS-241 of BXQ at Loc. No. BXQ/1085. iii) Close BM-217 at LPG/SSP.
7.	E/S No. 13802 on Common Loop line (L/3) at LPG. (E/S No. X-236, X-232 & AIPL siding gets automatically blocked)	i) Movement of Electric Trains/Locos shall not be permitted into Common Loop line (L/3) at LPG. ii) Electric Trains/Locos cannot be admitted into/dispatched from Common Loop Line (L/3 , L/2 & L/1) from BPSL & AIPL siding. iii) Ensure that no Electric Trains/Locos is standing with its panto raised condition on Common Loop line (L/3, L/2 & L/1). iv) Reception & dispatch signals for Common Loop line (L/3, L/2 & L/1) shall be kept at 'ON'.	Crossover point No. 64A/B at RGL end and point No. 85A/B & 79A/B at BXQ end shall be kept at normal position only.	i) Ensure SS/234A of LPG at Loc. No.528/22 is in open position. ii) Ensure SS/234 of LPG at Loc. No.530/8A is in open position.	i) Open CB-138 at LPG/SSP. i) Close CB-138 at LPG/SSP.

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8.	E/S No.X-236 on Common Loop line (L/1 & L/2) at LPG.	i) Movement of Electric Trains/Locos shall not be permitted into Common Loop line (L/1 & L/2) at LPG. ii) Electric Trains/Locos cannot be admitted/dispatched to/from Common Loop line (L/1 & L/2) on both the directions. iii) Ensure that no Electric Trains/Locos is standing with its panto raised condition on Common Loop line (L/1 & L/2). iv) Reception & dispatch signals for Common Loop line (L/1 & L/2) shall be kept at 'ON'.	Crossover point No. 58A/B, 66A/B at RGL end and point No.75A/B, 81A/B at BXQ end shall be kept at normal position only.	i) Open SS-236 of LPG at Loc. No.LPG/1008.	i) Close SS-236 of LPG at Loc. No.LPG/1008.
9.	E/S No.X-235 on Common Loop line (L/6) including Common Loop Line No. (L/7 & L/8) at LPG. (E/S No. X- 237,X-233 get automatically blocked)	i) Movement of Electric Trains/Locos shall not be permitted into Common Loop line (L/6) including Common Loop Line No. (L/7 & L/8) at LPG. ii) Electric Trains/Locos cannot be admitted/dispatched to/from Common Loop line (L/6) including Common Loop Line No. (L/7 & L/8) at LPG on both the directions. iii) Ensure that no Electric Trains/Locos is standing with its panto raised condition on Common Loop line (L/6) including Common Loop Line No. (L/7 & L/8) at LPG. iv) Reception & dispatch signals for Common Loop line (L/6) including Common Loop Line No. (L/7 & L/8) at LPG shall be kept at 'ON'.	Crossover point No. 80A/B, 86A/B at RGL end and point No.95A/B, 89A/B & 69A/B at BXQ end shall be kept at normal position only.	i) Ensure SS-239 of LPG at Loc. No. 528/47A is in open position. ii) Ensure SS-231 of LPG at Loc. No. LPG/1149 is in open position. i) Open SS-235 of LPG at Loc. No. 529/7.	i) Close SS-235 of LPG at Loc. No. 529/7.

10.	E/S No. X-237 on Common Loop Line (L/7) at LPG.	i) Movement of Electric Trains/Locos shall not be permitted into Common Loop Line (L/7) at LPG. ii) No Electric Trains/Locos can be admitted/dispatched into/from Common Loop Line (L/7) from/towards both the directions. iii) Ensure that no Electric Loco is standing with its panto raised condition on Common Loop Line (L/7). iv) Loading work can be performed on Common Loop Line (L/7) only after elementary section made dead. v) Reception & dispatch signals for Common Loop Line (L/7) at both ends shall be kept at 'ON'.	NIL	i) Open SS-237 of LPG at Loc. No. LPG/1107A first. ii) Then open SS-237A of LPG at Loc. No.529/11A.	i) Close SS-237A of LPG at Loc. No.529/11A first. ii) Then close SS-237 of LPG at Loc. No. LPG/1107A.
11.	E/S No. X-233 on Common Loop Line (L/8) at LPG.	i) Movement of Electric Trains/Locos shall not be permitted into Common Loop Line (L/8) at LPG. ii) No Electric Trains/Locos can be admitted/dispatched into/from Common Loop Line (L/8) from/towards both the directions. iii) Ensure that no Electric Loco is standing with its panto raised condition on Common Loop Line (L/8). iv) Loading work can be performed on Common Loop Line (L/8) only after elementary section made dead. v) Reception & dispatch signals for Common Loop Line (L/8) at both ends shall be kept at 'ON'.	Crossover point No. 84A/B at RGL end and point No. 97A/B at BXQ end shall be kept at normal position only.	i) Open SS-233 of LPG at Loc. No. 529/47A first. ii) Then open SS-233A of LPG at Loc. No.LPG/1043.	i) Close SS-233A of LPG at Loc. No. LPG/1043 first. ii) Then close SS-233 of LPG at Loc. No. 529/47A.

12.	E/S No. X-232 on AIPL siding at LPG	i) Movement of Electric Trains/Locos shall not be permitted into AIPL siding. ii) No Electric Trains/Locos can be admitted/dispatched into/from AIPL siding. iii) Reception and dispatch signals for AIPL siding shall be kept at 'ON'.	Crossover point No. 56 and 58A/B shall be kept at normal position only.	i) Open SS-232 of LPG at Loc. No. 530/12.	i) Close SS-232 of LPG at Loc. No. 530/12.
13.	E/S No. X-AIL-01 on AIPL siding.	i) No Electric Trains/Locos can be admitted into any line of AIPL siding. ii) Shunting of Electric Trains/Locos shall be prohibited in the siding. iii) Concerned signals shall be kept at 'ON'.	NIL	i) Open SS/AIL-01 of AIPL siding at Loc. No. LPG/1066.	i) Close SS/AIL-01 of AIPL siding at Loc. No. LPG/1066.
14.	E/S No. X-AIL-02 on BV siding at AIPL siding.	i) No Electric Trains/Locos can be admitted/dispatched into/from BV siding at AIPL siding. ii) Loading work can be performed on BV siding only after elementary section made dead. iii) Concerned signal shall be kept at 'ON'.	Hand point lever for BV siding shall not be operated.	i) Open SS/AIL-02 of AIPL siding at Loc. No. AIPL-00/06.	i) Close SS/AIL-02 of AIPL siding at Loc. No. AIPL-00/06.
15.	E/S No. X-AIL-03 on Line No.1 at AIPL siding.	i) No Electric Trains/Locos can be admitted/dispatched into/from Line No.1 at AIPL siding. ii) Loading work can be performed on Line No. 1 only after elementary section made dead. iii) Concern signal shall be kept at 'ON'.	Hand point lever for Line No.1 shall not be operated.	i) Open SS/AIL-03 of AIPL siding at Loc. No. AIPL-00/15 first. ii) Then open SS-03A of AIPL siding at Loc. No. AIPL-01/09.	i) Close SS-03A of AIPL siding at Loc. No. AIPL-01/09 first. ii) Then close SS-03 of AIPL siding at Loc. No. AIPL-00/15.
16.	E/S No. X-AIL-04 on Line No. 3 at AIPL siding.	i) No Electric Trains/Locos can be admitted/dispatched into/from Line No.3 at AIPL siding. ii) Loading work can be performed on Line No. 3 only after elementary section made dead. iii) Concern signal shall be kept at 'ON'.	Hand point lever for Line No.3 shall not be operated.	i) Open SS/AIL-04 of AIPL siding at Loc. No. AIPL-00/18 first. ii) Then open SS-04A of AIPL siding at Loc. No. AIPL-01/06.	i) Close SS-04A of AIPL siding at Loc. No. AIPL-01/06 first. ii) Then close SS-04 of AIPL siding at Loc. No. AIPL-00/18.
17.	E/S No. 14002 on Bhushan Power & Steel	i) Movement of Electric Trains/Locos shall not be permitted into BPSL	NIL	i) Ensure SS-234A of LPG at Loc. No. 528/22 is in open position.	

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	Ltd.siding at LPG	siding. ii) No Electric Trains/Locos can be admitted/dispatched into/from BPSL siding. iii) Reception and dispatch signals for BPSL siding shall be kept at 'ON'.		i) Open CB-140 at LPG/SSP.	i) Close CB-140 at LPG/SSP.
18.	E/S No. X-BPSL-01 at BPSL siding. (E/S X-BPSL-02, X-BPSL-03, X-BPSL-04, X-BPSL-05, X-BPSL-06, X-BPSL-07, X-BPSL-08 & X-BPSL-09 get automatically blocked)	i) Electric Trains/Locos cannot be admitted into all lines of BPSL siding. ii) Shunting of Electric Trains/Locos shall be prohibited in the siding. iii) Reception & dispatch signals shall be kept at 'ON'.	NIL	i) Open SS/BPSL-01 of BPSL siding at Loc. No. BPSL-00/09.	i) Close SS/BPSL-01 of BPSL siding at Loc. No. BPSL-00/09.
19.	E/S No. X-BPSL-02 on Line No.1 (Engine Escape Line), Line No.7 (Post Tippling Line), L-12 and L-13.	i) No Electric Trains/Locos can be admitted/dispatched into/from Line No.1 (Engine Escape Line), Line No.7 (Post Tippling Line) , L-12 and L-13. ii) Shunting of Electric Trains/Locos shall be prohibited on Line No.1 (Engine Escape Line), Line No.7 (Post Tippling Line) , L-12 and L-13. iii) Concern signal shall be kept at 'ON'.	Crossover point connecting to Line No.1, Line No.7, L-12 & L-13 shall not be operated.	i) Open SS/BPSL-02 of BPSL siding at Loc. No. BPSL-00/14A. ii) Close SS/BPSL-07 of BPSL siding at Loc. No. BPSL-01/125. iii) Open SS/BPSL-06 of BPSL siding at Loc. No. BPSL-01/115.	i) Close SS/BPSL-06 of BPSL siding at Loc. No. BPSL-01/115. ii) Close SS/BPSL-02 of BPSL siding at Loc. No. BPSL-00/14A. iii) Open SS/BPSL-07 of BPSL siding at Loc. No. BPSL-01/125.
20.	E/S No. X-BPSL-03 on Line No. 5. (E/S No. X- BPSL-05 gets automatically blocked)	i) No Electric Trains/Locos can be admitted/dispatched into/from Line No.5 including Line No.6 at BPSL siding. ii) Shunting of Electric Trains/Locos shall be prohibited on Line No. 5 (Engine Escape Line). iii) Concern signal shall be kept at 'ON'.	Crossover point connecting to Line No.5 & Line No.6 shall not be operated.	i) Ensure SS-BPSL-07 of BPSL siding at Loc. No. BPSL-01/125 is in open position. ii) Open SS/BPSL-03 of BPSL siding at Loc. No. BPSL-00/13A.	i) Close SS/BPSL-03 of BPSL siding at Loc. No. BPSL-00/13A.
21.	E/S No. X-BPSL-04 on Line No.2 & 3 (Pre Tippling Line) and Line No. - 4.	i) No Electric Trains/Locos can be admitted/dispatched into/from Line No. 2 & 3 (Pre Tippling Line) and Line No. - 4. at BPSL siding. ii) Shunting of Electric Trains/Locos shall be prohibited on 2 & 3 (Pre Tippling Line) and Line No. - 4. iii) Concern signal shall be kept at 'ON'.	Crossover point connecting to Line No.2 shall not be operated.	i) Open SS/BPSL-04 of BPSL siding at Loc. No. BPSL-00/19.	i) Close SS/BPSL-04 of BPSL siding at Loc. No. BPSL-00/19.

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22.	E/S No. X-BPSL-05 on Line No. 6.	i) No Electric Trains/Locos can be admitted/dispatched into/from Line No.6 at BPSL siding. ii) Loading work can be performed on Line No. 6 only after elementary section made dead and earthed. iii) Concern signal shall be kept at 'ON'.	crossover point connecting to Line No.6 shall not be operated.	i) Open SS/BPSL-05 of BPSL siding at Loc. No. BPSL-00/50A.	i) Close SS/BPSL-05 of BPSL siding at Loc.No.BPSL-00/50A.
22.	E/S No. X-BPSL-06 on Line No.8 (Post Tippling Line). (E/S No. X-BPSL-08, X-BPSL-09 get automatically blocked)	i) No Electric Trains/Locos can be admitted/dispatched into/from Line No.8 (Post Tippling Line) including Line No.9 (Post Tippling Line) and Line No. 10 (Sick line). ii) Shunting of Electric Trains/Locos shall be prohibited on Line No.8 (Post Tippling Line), Line No.9 (Post Tippling Line) and Line No. 10 (Sick line). iii) Concern signal shall be kept at 'ON'.	Hand point lever for Line No.8 (Post Tippling Line) shall not be operated.	i) Ensure SS-BPSL-07 of BPSL siding at Loc. No. BPSL-01/125 is in open position. ii) Open SS/BPSL-06 of BPSL siding at Loc. No. BPSL-01/115.	i) Close SS/BPSL-06 of BPSL siding at Loc. No. BPSL-01/115.
23.	E/S No. X-BPSL-08 on Line No.9 (Post Tippling Line). (E/S No. X-BPSL-09 gets automatically blocked)	i) No Electric Trains/Locos can be admitted/dispatched into/from Line No.9 (Post Tippling Line) including Line No.10 (Sick Line). ii) Shunting of Electric Trains/Locos shall be prohibited on Line No.9 (Post Tippling Line) and Line No.10 (Sick Line). iii) Concern signal shall be kept at 'ON'.	Crossover point connecting to Line No.9 (Post Tippling Line) and Line No. 10 (Sick Line) shall not be operated.	i) Open SS/BPSL-08 of BPSL siding at Loc. No. BPSL-02/16.	i) Close SS/BPSL-08 of BPSL siding at Loc. No. BPSL-02/16.
24.	E/S No. X-BPSL-09 on Line No.10 (Sick Line).	i) No Electric Trains/Locos can be admitted/dispatched into/from Line No.10 (Sick Line). ii) Shunting of Electric Trains/Locos shall be prohibited on Line No.10 (Sick Line). iii) Concern signal shall be kept at 'ON'.	Crossover point connecting to Line No.10 (Sick Line) shall not be operated.	i) Open SS/BPSL-09 of BPSL siding at Loc. No.BPSL-02/31.	i) Close SS/BPSL-09 of BPSL siding at Loc. No.BPSL- 02/31.

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- i) For any unusual movement of Electric Locos, the Station Master on duty must refer to the working rule diagram from 25KV AC traction of his station and ensured that there is no chance of energizing the section where power block has been granted.
- ii) Points leading to unwired tracks shall not be used for the movement of Electric Loco with pantograph raised.
- iii) Refer drawing No. TJRE/OHE/RE/LPG/05B.

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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/ LPG 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/ LPG, 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/ LPG will issue written authority to the train Loco Pilot to pass the signal at 'ON' position.
- iv) In addition Station Master/ LPG shall also issue a written authority in form T/369(3B) 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, Loco Pilot should be prepared stop short of the gate and ensure that gate is closed following GR.3.73.
- vi) In case of an approaching UP train, the Station Master/ LPG shall advise the SM/BXQ, under exchange of private number, that the telephone at the gate has failed.
- vii) The station Master/ BXQ shall then issue a caution order to the Loco Pilot before dispatching a train into the block section from his end.
- viii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the defect at the earliest.
- ix) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection /fit memo for the same.

4. FAILURE OF LIFTING BARRIERS OF GATES:

- ix) When the gate cannot be closed due to failure of lifting barriers, the gateman will immediately inform, the Station Master on duty/ LPG, under exchange of private number, and ensure the lifting barriers of gate do not foul the track.
- x) 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.
- xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- xii) 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.
- xiii) SM on duty/ LPG shall issue a written authority in form T/369(3B) to the Loco Pilot of a departing train.
- xiv) He shall also advise the station Master/BXQ at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching an UP train into the block section from his end.

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5. Insert the emergency key in emergency seal box.
6. Press the emergency button till lock indication appears in the panel.
7. Then turn the switch GS1 or GS2 to reverse position for taking 'OFF' UP Gate stop signal or DN Gate Stop signal respectively.

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

INSTRUCTIONS FOR OPERATION OF SLIDING BOOM:

- a. In case of breakage of normal boom or LC gate cannot be closed due to failure, the Gate man shall release electro-mechanically free Key 'S' from "EKT- 1" provided in the Gate lodge. Extraction of Key 'S' from the "EKT-1" will put back the road signals to danger and the hooter will sound simultaneously. Key 'S' unlocks the Sliding Barrier-1 provided at the far end of Gate Lodge.
- b. Sliding Barrier-1 to be rolled across the road up to lock post. Key (chained with barrier) releases the lock plunger & Key 'SB-1' when extracted lock the Sliding Barrier-1.
- c. Similarly, Sliding Barrier-2 provided at the near end of Gate lodge, after unlocking the pad lock by Gateman (Key available with self custody with him) to be rolled across the road up to lock post. Key (chained with Barrier) along with Key 'SB-1' inserted releases the lock plunger & Key 'SB-2'. Key 'SB-2' when extracted locks the Sliding Barrier-2 & Key 'SB-1'.
- d. Finally released Key 'SB-2', is to be inserted it in "EKT- 2" provided in the Gate lodge, in conjunction with Gate slot switch 'GS1 / GS2' reversed to enable the Gate man on duty to take off concerned UP / DN Gate Stop signals respectively.
- e. In case of any damage to sliding boom when it is in closed condition to road traffic, leading to infringement or obstruction on track, the Gateman shall normalize the switch 'GS1 / GS2' to put back the concerned signals to danger and informed to on duty SM/LPG.
- f. After passage of train, Gate man on duty shall take permission of on duty SM/LPG for opening the Gate. After getting permission from on duty SM/LPG, the Gateman shall extract Key 'SB-2' from "EKT- 2", normalize the switch 'GS1/GS2', unlock the sliding boom and operate the gears in reverse sequence of operation to normalize the sliding boom.

2.6 DUTIES OF GATEMAN:**(1) ALERTNESS:**

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

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

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

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

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

- (xix) Gateman shall place red banner flag during emergencies and obstruction on the track.

3. FAILURE OF TELEPHONIC COMMUNICATION

When telephonic communication fails or it does not get any response from gateman despite 2 or 3 attempts, the following procedure should be adopted:

- I. Station master on duty/LPG 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/LPG, 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/LPG will issue written authority to the train Loco Pilot to pass the signal at ON position.
- IV. In addition Station Master/LPG shall also issue a written authority in form T/369(3B) 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, Loco Pilot should be prepared stop short of the gate and ensure that gate is closed following GR 3.73.
- VI. In case of an approaching UP train, the Station Master/LPG shall advise the SM/BPSL Block Cabin under exchange of private number that the telephone at the gate has failed.
- VII. The station master/BPSL Block Cabin shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- VIII. He should also advise S&T staff responsible for maintenance of the telephone to rectify the same 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:

- I. When the gate cannot be closed due to failure of lifting barriers, the gateman will immediately inform the Station Master on duty, under exchange of private number, and ensure that lifting barriers do not foul the track.
- II. He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- 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 at night to the Loco Pilot of the approaching train.
- V. Station Master on duty/LPG shall issue a written authority in form T/369(3B) to the Loco Pilot of departing train.
- VI. He shall also advise the Station Master/BPSL Block Cabin at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a UP train into the block section from his end.