

Sl. No. SWR/NRLR/53

EAST COAST RAILWAY
SAMBALPUR DIVISION

STATION WORKING RULES OF NORLA ROAD STATION (CODE: NRLR)

BG/MG/NG:Broad Gauge

Date of issue:10.10.2022

Date brought into force: 20.10.22

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 – 22219****1.2 SIGNAL INTERLOCKING PLAN NO.: - S.I –22219**

The Station Working Rule diagram and approved Signal Interlocking Plan shows the complete lay out of the yard, siding, normal position of points, the Signaling 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: -

NORLA ROAD is a six lined station situated in Raipur end at KM 780.261 from HWH and at KM 238.507 from Raipur. It is Standard – III (R) interlocked Class 'B' station with Electronic Interlocking (EI) and Absolute Block System of Working. LVCD axle counters with dual detection at either end are provided at the station for last vehicle check.

2.1 GENERAL LOCATION:-**2.1.1 NAME OF STATION : NORLA ROAD (NRLR).**

2.1.2 CLASSIFICATION OF STATION : 'B' class

2.1.3 NAME OF THE SECTION : Vizianagaram Jn.- RAIPUR Jn Multiple line, RE, BG section. (Situated in between RUPRA ROAD & LANJIGARH ROAD stations)

2.1.4 ROUTE : "D"

**2.1.5 LOCATION : KM 780.261 from HWH via SBP.
KM 238.507 from RAIPUR.**

2.1.6 PI/EI : EI.

S. SAINI
DSTE(SIG)/SBP

LINGARAJ GARTIA
DOM(G)/SBP

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

- i) Vizianagaram end- LANJIGARH ROAD (Code: LJR) at an inter distance of 11.367 K.M.
- ii) Raipur end -RUPRA ROAD (Code:-RPRD) at an inter distance 6.693. K.M.
- iii) Passenger Halt: - Nil
- iv) Flag station: - Nil
- v) Outlying siding: - Nil
- vi) D.K. station: - Nil.
- vii) IBH: - NIL
- viii) IBS:-Nil

2.2 BLOCK SECTION LIMITS: -

Between stations	The point from which 'Block section' commences.	The point at which 'Block section' ends.
Between NRLR-LJR (UP Line)	UP Advanced starter signal No.27 of NRLR station.	Outermost facing point No.55A on UP line of LJR Station.
Between NRLR-LJR (DN Line)	DN Advanced starter signal No.48 of LJR station.	Outermost facing point No.34A on DN line of NRLR Station.
Between NRLR-RPRD (UP Line)	UP Advanced starter signal No. 27 of RPRD station.	BSLB on UP line of NRLR Station.
Between NRLR-RPRD (DN Line)	DN Advanced starter signal No.28 of NRLR station.	BSLB on DN line of RPRD Station.
Between NRLR-LJR (3rd Line) Single line	From UP advanced starter signal No. 29 of NRLR station.	DN Advanced starter sig No.46 of LJR station
Between NRLR-RPRD (3rd Line) Single line.	From DN advanced starter signal No. 26 of NRLR station.	UP Advanced starter sig No.29 of RPRD station

2.3.1 STATION SECTION:

The portion in between UP Advanced starter signal No 27 (at LJR end) and BSLB on UP line (at RPRD end) and further, the portion from Outermost facing point No.34A on DN line (LJR end) to DN Advanced starter signal No. 28 (at RPRD end) is the station section of NRLR station. for UP and DN lines respectively.

The portion between UP Advanced starter signal No 29 (at LJR end) and DN Advanced starter signal No.26 (at RPRD end) on third line is the station section for third line.

2.3.2 STATION LIMIT:

The portion between UP Inner Distant signal at RPRD end and UP Advanced starter signal No-27 at LJR end and further, the portion between DN Inner Distant signal at LJR end to DN Advanced starter signal No. 28 at RPRD end is station limit of the Station.

The portion between DN Inner Distant signal (atLJR end) and UP Inner Distant signal (at RPRD end) on third line is the station limit for third line.

2.4: **GRADIENT: -**

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

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
000.000	620.000	620.000	1 in 400 R
620.000	900.000	280.000	1 in 150 (C)R
900.000	1500.000	600.000	1 in 1083 R
1500.000	1850.000	350.000	1 in 416R
1850.000	3580.000	1730.000	1 in 150R
3580.000	4700.000	1120.000	1 in 240 R
4700.000	Block Section	---	1 in 400 R

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

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0.000	620.000	620.000	1 in 400 R
620.000	900.000	280.000	1 in 150(C)R
900.000	1500.000	600.000	1 in 108.4R
1500.000	1850.000	350.000	1 in 416R
1850.000	3800.000	1950.000	1 in 150R
3800.000	4137.000	337.000	1 in 240R
4137.000	4250.000	113.000	1 in 175 R
4250.000	Block Section	---	1 in 292 R

(c) **FROM THE CENTER OF STATION BUILDING TOWARDS LANJIGARH ROAD(THIRD LINE)**

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0.000	616.341	616.341	1 in 400R
616.341	967.840	351.499	1 in 200 R
967.840	1567.840	600.000	1 in 1050 R
1567.840	1827.840	260.000	1 in 350 R
1827.840	2707.840	880.000	1 in 160 R
2707.840	3477.840	770.000	1 in 150 R
3477.840	Block Section	---	

(d) **ROAD(UP LINE)**

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0.000	732.000	732.000	1 in 400F
732.000	1280.000	548.000	1 in 150F
1280.000	2124.205	844.205	1 in 267.66F
2124.205	2774.205	650.000	1 in 325F
2774.200	3274.200	499.995	1 in 225 F
3274.200	Block Section	---	1 in 280 F

(e) **FROM THE CENTER OF STATION BUILDING TOWARDS RUPRA ROAD (DN LINE)**

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0.000	732.000	732.000	1 in 400F
732.000	1280.000	548.000	1 in 150 F
1280.000	1724.200	444.200	1 in 175.85F
1724.200	2124.205	400.005	1 in 567F
2124.205	2774.200	649.995	1 in 346.85F
2774.205	3274.200	500.000	1 in 220.26F
3274.200	Block Section	---	1in 280 F

(f.) **FROM THE CENTER OF STATION BUILDING TOWARDS RUPRA ROAD (THIRD LINE)**

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
FROM	TO		
0.000	732.160	732.160	1 in 400 F
732.160	1392.160	660.000	1 in 155F
1392.160	1752.160	360.000	1 in 200F
1752.160	2172.160	420.000	1 in 500 F
2172.160	3692.160	1520.000	1 in 275F
3692.160	Block Section	---	

2.5LAY OUT: -

- i) No. of running lines :- 6.(SIX)
- ii) No. of sidings :- NIL.
- iii) No. of Passenger platform :- 04(four), One High level Platform of dimension 600M X 6.0 M beside Line No.-6, another high level island platform of dimension 480 M X 10.708 M between Line No.3 & 4, another high level platform of dimension 446.10 M X 10 M beside Line No.1.

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

DESCRIPTION	CSL	ISOLATION PROVIDED	
		TOWARDS LJR	TOWARDS RPRD
Line No.1 (Common Loop)	749.00.mtrs. (STR. to STR.)	ORL	ORL

Line No.2 (UP Main)	770.00 mtrs. (STR. to Sh. Sig.)	---	---
Line No.3 (DN Main)	885.30mtrs. (STR to Stop. Sig)	--	-
Line No.4 (DN Loop)	873.00 mtrs. (STR to Stop. Sig)	DS	ORL
Line No.5 (Main Line 3 rd)	757.00 mtrs. (STR to STR)	---	--
Line No.6(Loop Line 3rd)	757.00 mtrs. (STR to STR)	ORL	ORL

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

- A) Trains arriving from RUPRA ROAD end are UP trains.
B) Trains arriving from LANJIGARH ROAD end are DN trains.

2.5.2 **NON-RUNNING LINES AND CSL: - NIL**

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

- CSL of Line No.3 and Line No.4 are more than 800 M, to avoid premature release of overlap, overlap will initiate only when rear portion of point zone track section is clear and when
 - L3XT2 is occupied for Line No.3
 - L4XT2 is occupied for Line No.4.
- UP Gate Home GS-3 of LC No-RV196 is released by UP Home signal No.1 of NRLR.
- UP Gate Home GS-5 of LC No-RV196 is released by UP Home signal No.S3 of NRLR for 3rd line.
- DN Advanced starter No.26 of NRLR 3rd line is controlled by Gate Home GS-6 of LC No- RV-196.
- DN Advanced starter No.28 of NRLR DN line is controlled by Gate Home GS-4 of LC No- RV-196.

2.6 **LEVEL CROSSINGS:**

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

Sl. No	Location	K.M.	Normal Position	Class	Type	Operation	Communication
1.	Between NRLR-LJR. (Traffic)	239/11-13 (UP) 239/12-14 (DN) 239/12A-14A(3rd) (RV 198)	Open to Road Traffic	'C'	Interlocked	Electrically Operated Lifting Barrier	Push Button Telephone with SM office/NRLR.

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

Sl. No	Location	K.M.	Normal Position	Class	Type	Operation	Communication
1.	Between RPRD-NRLR	233/9-11 (UP) 233/10-12 (DN) 233/10A-12A(3rd) (RV 191)	Closed to Road Traffic	'C'	Non-Interlocked	Winch Operated Lifting Barrier	Voice logger Telephone with SM office/RPRD.
2.	Between RPRD-NRLR	234/27-29 (UP) 234/28-30 (DN) 234/28A-30A(3rd) (RV 193)	Closed to Road Traffic	'C'	Non-Interlocked	Winch Operated Lifting Barrier	Voice logger Telephone with SM office/RPRD.

Sl. No	Location	K.M.	Normal Position	Class	Type	Operation	Communication
3.	Between NRLR-RUPRA ROAD	237/11-13(UP) 237/12-14(DN) 237/12A-14A(3rd) (RV-196)	Open to Road Traffic	'SPL'	Interlocked	Electrically operated lifting barrier	Voice logger telephone with SM office/NRLR
4.	Between NRLR-LJR	240/9-11(UP) 240/10-12(DN) 240/10A-12A(3rd) (RV 199)	Closed to Road Traffic	'C'	Non-Interlocked	Winch Operated Lifting Barrier	Voice logger Telephone with SM office/NRLR.
5.	Between NRLR-LJR	241/7-9 (UP) 241/8-10 (DN) 241/10A-8A(3rd) (RV 200)	Closed to Road Traffic	'C'	Non-Interlocked	Winch Operated Lifting Barrier	Voice logger Telephone with SM office/NRLR.
6.	Between NRLR-LJR	241/33-242/1(UP) 241/34-242/2(DN) 241/34A-242/32A(3rd) (RV 201)	Open to Road Traffic	'C'	Interlocked	Electrically Operated Lifting Barrier	Voice logger Telephone with SM office/NRLR.
7.	Between NRLR-LJR	243/13-15 UP 243/14-16 DN 243/14A16A(3rd) (RV 202)	Closed to Road Traffic	'C'	Non-Interlocked	Winch Operated Lifting Barrier	Voice logger Telephone with SM office/LJR.

(Train Actuated Warning Device has not been provided at above Level Crossing Gates except at LC gate No.RV196& RV-201).

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

3. SYSTEM AND MEANS OF WORKING:-

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

i) **System of working-** : - Absolute Block system on multiple lines.

ii) **Type of block instrument** :- Double Line lock and Block Instruments (SGE Type) are provided for NRLR-RPRD and NRLR-LJR for Double line section and for 3rd line Block Panel with UFSBI are provided for sections NRLR-RPRD&NRLR-LJR.

iii) **Block Telephone** :- Provided with respective block Instruments & **block panels** NRLR-RPRD & NRLR-LJR sections.

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

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

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

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

The station is provided with Standard III (R) interlocking with Multiple Aspect Color Light Signaling and Dual detection LVCD Axle Counters(HASSDAC). All the points, signals and other controls are operated from VDU by on duty Station Master. Standby VDU is also provided at this station. The Home signals and Advanced Starter signals are interlocked with respective block instruments. GR 3.08(4) (b) governs the aspect and indications of the signals respectively. The station has no end cabins.

Minimum equipment of signal –

- 1.Distant, Inner Distant, Home, Starter and Advanced starter in either direction.
- 2.Starter signals are released by concerned advanced starter signals.
- 3.DN adv. starter signal are controlled by gate stop signals of RV-196.
- 4.UP Gate stop signal No. GS3 & GS5 are controlled by S1 & S3 respectively.

4.1.2 **STATION MASTER'S OPERATING CONSOLE (VDU): -**

The Station is provided with central Electronic Interlocking (EI) system. All signals, points and other controls 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 and starter signals (i.e. in both UP & DN directions), Central VDU is provided in the Station Master's office to electrically control all signals, points,& LC Gates.

The VDU is provided with SM's KEY, User name and password which shall always remain in personal memory of SM on duty in terms of SR 3.36.03(a).

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

4.1.3 **MSDAC: -**

All the lines including point zones between Home and Advanced starter signal on either direction are provided with dual **Multi Section Digital Axle counters** termed as track sections in lieu of track circuits. In addition, there are short length track sections in advance of Advanced starter signals and in rear of Home signals. Approach Track sections are also provided for all the Calling-on signals. The position of the running lines including point zones i.e. occupied/clear is indicated in the VDU at the Station Master's office. Normally there will be no indication of track sections. It shows 'RED' when the line is occupied and 'WHITE' in VDU when the line is clear provided the route is set.

4.1.3.1**AXLE COUNTER:**

Block sections between NRLR-RPRD and NRLR-LJR are monitored by Dual Digital axle counter system(HASSDAC). Dual Digital axle counters along with associated accessories are provided at either end of the Block section.

NRLR-RPRD URAXT:

A pair of dual digital axle counter is provided between NORLA ROAD and RUPRA ROAD stations one beyond UP Advanced starter signal of RUPRA ROAD station & another 180 Min advance of UP Home signal of NORLA ROAD station 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.

NRLR-RPRD DRAXT:

A Pair of dual digital axle counter is provided for DN line of NORLA ROAD and RUPRA ROAD stations one beyond DN Advanced starter signal of NORLA ROAD station & another 180 M in advance of DN Home Signal of RUPRA ROAD station 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.

NRLR-RPRD BAXT(3rd Line):

A Pair of dual digital axle counter is provided for 3rd line between NORLA ROAD and RUPRA ROAD stations one beyond DN Advanced starter signal of NORLA ROAD station & another beyond UP advanced starter signal of RUPRA ROAD station on 3rd 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.

NRLR-LJR URAXT:

A pair of dual Digital Axle counters is provided between NORLA ROAD and LANJIGARH ROAD stations one beyond UP Advanced starter signal of NORLA ROAD station & another 180 M in advance of UP Home signal of LANJIGARH ROAD station 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.

LJR-NRLRDRAXT:

A Pair of dual digital axle counter is provided for DN line of LANJIGARH ROAD and NORLA ROAD stations one beyond DN Advanced starter signal of LANJIGARH ROAD station & another 180 M in advance of DN Home Signal of NORLA ROAD station 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.

NRLR-LJR BAXT(3rd Line):

A Pair of dual digital axle counter is provided for 3rd line between NORLA ROAD and LANJIGARH ROAD stations one beyond DN Advanced starter signal of LANJIGARH ROAD station & another beyond UP advanced starter signal of NORLA ROAD station on 3rd line for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train.

The position of block section i.e. clear/occupied is reflected on the reset box panel and VDU provided in the Station Master's office which shows 'GREEN' when the block section is clear and 'RED' when the block section is occupied. Whenever a train enters in to the Block section, "Block Section Clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears.

After complete arrival of the train the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of the train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR14.13 is to be followed. The Axle counters are interlocked with the respective Block Instruments for that section. If Axle counters fails, Advanced starter signal shall not come to 'OFF' and the concerned instrument shall remain locked in last operated position.

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

A Visual indication is provided in SM's room. By this indication SM on duty will be able to inform S&T staff immediately during failure of one of the two Axle counters provided.

NOTE:

Before taking 'OFF' reception signals for UP and DN direction, the SM on duty should ensure that the entire route including overlap and berthing portion is clear of all obstructions by observing the Track indication/Axle counter indication. The indication of Track section/Axle counter will exhibit Red light when track is occupied and white light when track is clear and route is set for a train. There will be no track indication when any route is not set and track section is clear.

4.1.4 POSITION AND OPERATION OF POINTS: -

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

4.1.5 ELECTRICAL KEY TRANSMITTER (EKT):-

EKTs with crank handle keys are provided at both end locations for the operation of points in case of failure of point motors. The keys for the crank handle keys are transmitted electrically to the crank handle locations for operating the points by crank handles. EKT is also provided at traffic LC Gate for electrical KEY transmission.

4.1.5.1 IBS : Nil

4.1.5.2. POINTS AND TRAP INDICATOR: NIL

4.1.5.3 REPEATER(BANNER TYPE): NIL

4.1.6 CALLING ON SIGNALS:-

Miniature colour light Calling-on signal is provided below Home signals (i.e. in both UP & DN directions), and below starter 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/starter signal above it cannot be taken 'OFF' due to

failure or any other reason or for admission of train on a blocked line. Or for shunting purpose Before permitting non signal/Calling on signal movement, clearance of the track on the route including fouling mark (if any) showing Red shall be physically verified by on duty SM. . No run through is permitted for a train which is admitted on calling on signal.

NOTE:

- i) Before taking “OFF” Calling-on signal during failure of track circuit, the clearance of track over which the train is intended to be received must be verified physically.
- ii) SM on duty to ensure that no through signals are given while receiving a train on Calling-on signal.

4.1.7 SHUNT SIGNALS:-

Shunt signals at top point viz., SH 6 & SH 8 on DN line and 3rd line respectively at LJR end for back shunt. Shunt signals at top point viz SH 5& SH 7 on UP line and 3rd line at RPRD end have been provided for back shunt movement. SH 15,SH 17, SH 23 and SH 25 provided below UP starters signals and SH10, SH 12, SH 14,, SH 16, SH 20 provided below DN starter signals and SH 18 on DN main line for yard shunting. In addition independent shunt signal No.18 is also provided for shunting purpose.

4.1.8 ANTI COLLISION DEVICE: - NIL

4.1.9 EMERGENCY CROSSOVER:-NIL

4.1.10 LC GATE OPERATION:-Given in Appendix ‘A’

4.1.11 CRANK HANDLE

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

CRANK HANDLE

CH-1
CH-2
CH-3
CH-4
CH-5

CONTROL POINTS

33A/B.
41 A/B. 42 A/B.
35A/B, 36 A/B
34 A/B.
37 A/B, 38 A/B.

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

electrically transmitted to both ends locations of the yard for manual operation of the defective points.

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

4.1.12 EMERGENCY CRANK HANDLE RELEASE DURING FAILURE OF BOTH EI(ACTIVE & STAND BY) :

When both the VDUs (Active & Stand by) provided for operation of signals & points in EI station cease to work at the same time due to power failure or what so ever the reason, the SM on duty shall put the VDU key to middle position and turn the key (ECH) to right provided in the key box fixed on the SM table and simultaneously to press the VDU fail ACK button provided on the counter box. By resorting to this, timer is initiated and all the crank handles are released at a time after 120 seconds. The SM on duty can set the required point/points through crank handles manually by extracting the key/keys from EKTs provided in the location boxes.

4.1.13 EMERGENCY CRANK HANDLE RELEASE DURING FAILURE OF BOTH THE VDU DUE TO SYSTEM FAILURE:

In case complete EI System (both active & stand by) fails there is a provision that keys from all crank handle locations gets released automatically with out any time delay and can be extracted for crank handling & setting of points for train operations.

4.1.14 EMERGENCY CRANK HANDLE RELEASE WHEN ROUTE INDICATION COULD NOT BE CANCELLED:

Please refer Para No.5.3 of Appendix B of this SWR for operation.

4.4.15 EMERGENCY POINT OPERATION :

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

Note: Before resorting to the operation, the SM on duty shall verify that the point zone is clear of any obstruction occupying the track section.

4.1.16 EMERGENCY ROUTE RELEASE INDICATION (WHITE) EMERGENCY

ROUTE RELEASE MENU:

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

When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), click on the concerned signal. After clicking by the left button on the mouse a pop-up menu will appear. Click on the cancellation menu (Main/Calling-on) of the concerned signal, the signal will immediately go to ON aspect. After doing so click on the route release menu, the route locked indication will start flashing for 120 seconds. After completion of 120 seconds, the White light along with the White strip of light will disappear suggesting the route has been released. This action will be recorded in a counter. The counter will register the next number for each and every such action. In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to release the route.

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

4.1.17 EMERGENCY ROUTE RELEASE COUNTER:

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

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

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

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

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

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

Whenever relay room is to be opened either for scheduled maintenance or during failures or for other maintenance activities/construction works. The concerned Maintainer/Signal Supervisor will inform SM on duty for opening of Relay Room with reason. SM on duty will verify his identity from the list of

authorized S&T Staff recorded in the first page of Relay Room Key register or as advised by Signal Fault Control in emergency. SM shall give the key of operating lock to S&T staff, after the entry is made in the Relay Room and also with Red Ink in TSR. Relay Room key shall not be handed over by SM on duty to any Group D staff of S&T department. On completion of work, the concerned Signal Maintainer/ Signal Supervisor shall properly close Relay Room door and lock it with both the locks and then return the key of operating lock to the SM on duty making the entry in the relay room register.

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

Entry to be made in S& T failure register by SM on duty and failure Memo has to be issued to S& T staff. S& T staff shall not take the Relay Room Key for attending failures and open the Relay Room unless the failure is recorded in Signal failure register. If disconnection is required, Disconnection Memo has to be given by S& T staff to SM on duty. Failure Memo should be acknowledged and entry in relay room key register to be made by S& T staff before obtaining Station Master's key, Relay Room key for Schedule maintenance shall be taken once in a calendar Month during monthly inspection by Sectional Supervisor. Relay room can be opened by following above procedure for special maintenance activities like cable insulation testing, block/ disconnection memos, selection/ locking table testing, maintenance work inside relay room by Electrical and Engineering staff, during failures, data logger resetting and inspection by Divisional and Headquarter officials, Track section 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: -**

- i) The station works on 230V single phase power supply. The normal power supply is from the auxiliary transformer (25KVA Rating) connected to OHE traction distribution system.
- ii) Standby power supply: Standby power supply: Odisha State Electricity Board Supply.
- iii) An Auto changeover switch is provided in the Station Master's Office with the three power supplies viz. UP AT, DN AT and Local supply for automatic selection from available source or changing the switch position to the required supply manually. A luminous indicator provided above the circuit breaker for each supply indicates the availability of the supply.
- iv) Normally the switch is kept in auto mode. Whenever power block is to be given, the on duty SM must ascertain that power is available on the other AT eg. if power block is given to the UP line, DN AT must be available and vice-versa.
- v) In case of failure of one of the AT Supply without any power block, the on duty SM has to check whether the circuit breaker has tripped (Three circuit breakers are provided in the changeover switch board one for each supply and their normal position is Up and when tripped it goes down). In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch. If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any means and a message shall be given to concerned SSE [Elect.] and SSE/PSI [OHE] for prompt rectification.
- vi) For IPS system which provides supply to EI, a manual changeover switch is provided at SM's Office with the two power supplies viz., selected supply from CLS panel and State power supply for changing the switch to required supply position manually.
- vii) Normally manual changeover switch is kept in selected supply from CLS panel position, if in case any emergency, changeover switch is changed to local supply position by on duty SM.
- viii) There is a remote monitoring ASM box provided at the Cabin to monitor the health of IPS.

REMOTE MONITORING ASM BOX:

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

- a) 50% depth of discharge (DoD) of battery. In this condition audio/visual alarm comes, which can be acknowledged with audio cut-off.
- b) 60% DOD, which warns for emergency. The alarm for this condition is same as for condition 1.
- c) 70% DOD, which signals system, shut-down. In this condition signal feed is cut-off and all DC-DC converters continue working. Audio alarm continues till power supply is restored.
- d) Any of the module fails, which calls for 'call S&T'.
- e) Whenever there is a failure of power supply in AT or Local 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 AT and Local and make an entry in the Cabin Diary duly initiating action for rectification of failure, if any.

5.0 TELECOMMUNICATION FACILITIES: -

- (i) Telephone attached with DLBI and UFSBI Block panel of NRLR-LJR&NRLR-RPRD Block Sections.
- (ii) Station to Station fixed telephone (Hot line) is provided
- (iii) Station is provided with Auto telephone connected with Railway Exchange.
- (iv) BSNL telephone is provided.
- (v) The station is connected to Balangir-Singapur 'B' cabin 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 RV-196 at KM.239/11-13(UP), 239/12-14(DN), 239/12A-14A(3rd), RV198 at KM.237/11-13(UP),237/12-14(DN),237/12A-14A(3rd), RV-199 at KM.240/9-11(UP),240/10-12(DN),240/10A12A(3rd), RV-200 at KM.241/7-9(UP),241/8-10(DN), 241/10A-8A(3rd), RV-201 at KM.241/33-242/1(UP), 241/34-242/2(DN) 241/34A-242/2A(3rd)
- (ix) Telephone is provided for communication between SM and TPC.
- (x) Telephone is provided for communication between Station and SSP.
- (xi) Telephone is provided for communication between station and LV Boxes.

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.

5.1 FAILURE OF COMMUNICATION: -

The on duty SM shall use the above electrical communication instruments stated in Para-5.0 from item No. (i) to (vi) strictly in order of preference for obtaining/granting line clear vide SR 14.01.01. In case of 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 SR 6.02.03 shall be observed for working the train between section NRLR-LJR and NRLR-LANJIGARH ROAD. During failure of signal, inter-locking, points, block instrument telephone etc. the S&T staff should be informed for rectification.

6.0 SYSTEM OF TRAIN WORKING: -

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

6.1 DUTIES OF TRAIN WORKING STAFF: -

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

6.1.1 TRAIN WORKING STAFF: -

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

SL. NO.	DESIGNATION	ROSTER	NO. OF STAFF IN EACH SHIFT	HRS. OF DUTY
1.	SS	Continuous	-----	-09 hrs.
2.	SM	Continuous	01	08hrs
3.	PM-A/PM-B	Continuous	01	08 hrs.
4.	Gate keeper	E.I	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 displayed in the SS's office.

6.1.2 RESPONSIBILITY OF ASCERTAINING CLEARANCE OF THE LINE: -

The SM on duty is responsible to ascertain the clearance of the line.

6.1.3 ASSURANCE OF STAFF IN ASSURANCE REGISTER: -

All staff before taking up independent charge of their duties at this station shall make a written declaration in the assurance register that they have read and thoroughly understood the system in force and must sign in such declaration vide SR 5.01.02.

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

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

The declaration shall be renewed in the following cases: -

- (i) Whenever there is a change in the Station Working Rules.
- (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.
- (iii) When a staff joins as a new member in the station.

6.2 CONDITIONS FOR GRANTING LINE CLEAR: -

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

S. SAINI
DSTE(SIG)/SBP

LINGARAJ GARTIA
DOM(G)/SBP

- b. Before granting line clear for a train SM on duty shall personally ensure that the reception signals pertaining to a train are in the 'ON' position and burning properly vide GR 3.49(4). 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.
- c. **[A] For double line Section-(NRLR-RPRD) and (NRLR-LJR)**
Before granting line clear for a train, the SM on duty shall ensure that-
- The whole of the last preceding train has arrived complete.
 - All necessary signals have been put back to 'ON' behind the said train.
 - The line is clear up to the BSLB or outer most facing point of respective sections at both ends i.e RPRD end and LJR end.
- [B] For Single Line section-(NRLR-RPRD) and (NRLR-LJR).**
Before granting line clear for a train, the SM on duty shall ensure that-
- The whole of the last preceding train has arrived complete.
 - All necessary signals have been put back to 'ON' behind the said train.
 - Block section is clear of trains running in the direction towards the block station for which such line clear is being given.
 - The line is clear up to advanced starter of opposite direction.

[C] 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 on double line sections and at either end in single line sections should immediately be set against the blocked line except when shunting or for any other movement towards the blocked line is required to be done vide 3.51.06(a). If all the lines at the station happen to be blocked then SR.3.51.06(b) will be followed.

Safety Point Alarm Unit (SPAU):

A safety Point Alarm is provided on the VDU table with different indications:

- On complete arrival of a train at the station, the SM has to set the Points immediately against the occupied line.
- In case the SM forgets to alter the points, after a time lag of 02 minutes, an audible buzzer will be heard from this instrument along with the 'RED' indication of the line on which the train has arrived.
- The SM shall then press 'ACK' button to mute the buzzer, and immediately set the required points against the line on which the train has arrived.
- On setting the points against the occupied line, the RED indication will disappear.
- In case SM fails to set the required points against the occupied line a fault message will be triggered SMS will be sent to concerned station mobile and all concerned staff to take necessary action.

If all the lines of a station happen to be blocked, when line clear has been granted to a train, the points should be set for the line occupied by a stabled load or a goods train in that order so that, in case of mishap, the chance of casualties are minimized [Refer SR.3.51.06 (b)]. In case of all the lines are occupied by Coaching train, points should be set for a loop line to negotiate with the speed of incoming train would be reduced which in turn, would minimize the consequences/causalities.

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

6.2.1.2 RECEPTION OF TRAIN ON BLOCKED LINE: -

(The SM on duty shall comply with the instructions laid down in GR 5.09 and SRs thereto.)

Whenever trains are to be admitted on an obstructed line, it can be done by taking off calling on signal. When calling-on signal also fails, SM on duty shall authorize the Loco Pilot with form T/509 indicating the reason for such admission, the line number and the nature of obstruction on that line.

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

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

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

6.2.1.4 DESPATCH OF TRAINS FROM NON-SIGNALLED LINE:

In case reception of a train on a non-signaled line the SM's shall follow GR 5.11 and SR there to.

6.2.1.5 DESPATCH OF TRAINS FROM LINE PROVIDED WITH COMMON STARTER SIGNAL:

NOT APPLICABLE.

6.2.1.6 SPECIAL RESTRICTIONS:

- Speed is raised to 30KMPH on first loop lines on main line and over its turn outs. However no train shall be allowed to negotiate at a speed more than 15KMPH if it involves negotiating more than one cross over at a time.
- No load shall be stabled in non isolated lines without live locomotive is attached. Otherwise vehicle shall be secured as per Railway Board letter no.2012/Safety (S&R)/19/1 dtd.04.12.2018.
- While receiving a train at this station, overlap shall not be set towards bi-directional Main line in case another train is approaching the station from opposite direction in that bi-directional line except in case where the train in opposite direction is brought to Dead stop at the foot of the concerned Home Signal.
- While shunting on gradients towards UP/DN Adv. Starter signals an Engine is to be attached towards the falling side of the gradients. GR-5.20(b) to be strictly followed.

6.3 CONDITIONS FOR TAKING 'OFF' APPROACH SIGNAL: -

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

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

A. CLEARANCE OF ADEQUATE DISTANCE: -

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

Sr. No.	Line No.	UP TRAIN		DN TRAIN	
		FROM	TO	FROM	TO
1	Line No. 1 (Common loop)	Foot of the UP starter signal No.15.	Up to the end of ORL or Advanced starter Signal No.27	Foot of the DN starter signal No.20.	Up to the end of ORL or Advanced starter Signal No.28
2	Line No. 2 (UP main)	Foot of the UP starter signal No.17	Up to Advanced starter Signal No.27.	--	--
3	Line No. 3 (DN main)	---	---	Foot of the DN Starter Signal No. 16.	Up to Advanced starter signal No.28
4	Line No. 4 (DN loop)	---	--	Foot of the DN Starter Signal No. 14	Up to the end of ORL or Up to Advanced starter signal No.28
5	Line No. 5 (3 rd Main line)	Foot of the UP starter signal No.23.	Up to the Advanced starter Signal No.29.	Foot of the DN Starter Signal No. 12	Up to Advanced starter signal No.26

6	Line No.6 (3 rd line Loop line)	Foot of the UP starter signal No.25.	Up to the end of ORL or Up to the Advanced starter Signal No.29.	Foot of the DN Starter Signal No. 10	Up to the end of ORL or Advanced starter Signal No.26.
---	--	--	---	--	---

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 section indication on VDU or by physical verification of the nominated route in case of failure of track section. He shall suspend all non-isolated shunting and thereafter set the points of the nominated route are set 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 section 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/dispatch of train will be possible in such cases with the "Calling-On" signal fixed below Home signal/starter signal at either end provided that the either of the two track sections in advance of Home signal/starter signals does not show 'RED' indication.

Miniature Colour light calling on signal is provided below the Home signals/starter signals and 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/starter signal above it cannot be taken off due to failure of track section 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 section in rear of the signal. When a train occupies the track section a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be set by tracking the pointer in VDU on to the signal below which the calling on signal is provided. Various options in terms of the total routes over which the signal will lead to will appear on the menu. Then the SM must drag the pointer and click over the particular Calling on route amongst the various options displayed in the menu by the left button of the mouse as a result of which the Calling-on signal will blink for 60 seconds in case of calling ON signal below Home signals.

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

the reasons to do so. The calling-on signal route can be released after complete arrival of the train and by cancelling the signal manually.

NOTE:

- i) Before taking "OFF" Calling-on signal during failure of track circuit, the clearance of track over which the train is intended to be received must be verified physically.
- ii) SM on duty to ensure that no through signals are given while receiving a train on Calling-on signal.

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

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

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

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

(i)	While receiving an UP train on Line No.1 set to ORL	UP train can be dispatch from L2 and Reception or Dispatch of DN train from Line No. 3 or 4
(ii)	While receiving an UP train on Line No.2. M/L	Reception or Dispatch of an DN train on Line No.3 or 4.
(iii)	While receiving a DN train on Line No.3.	Reception or dispatch of an UP train on Line No.L1/L2.
(iv)	While receiving a DN train on Line No.4 set to ORL	Dispatch of a DN train on Line No.L3 and L.No.1 or reception/dispatch of an UP train from line No. L1/L2.
(v)	While receiving a DN train on Line No.6 set to ORL	Dispatch of another DN train on Line No.L.5.
(vi)	While receiving an UP train on Line No.6 set to ORL	Dispatch of another UP train from Line No.5.

6.5 COMPLETE ARRIVAL OF TRAIN: -

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

- a) **STAFF RESPONSIBLE TO VERIFY COMPLETE ARRIVAL: -** SM on duty.
- b) **MODE OF VERIFICATION:** Through AXLE COUNTER.

6.5.1 L.V. VERIFICATION THROUGH AXLE COUNTER: -

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

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

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

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

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

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

6.6 DISPATCHING OF TRAINS: -

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

To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the VDU. He shall suspend all non-isolated shunting and ensure that the all manned Level crossing gates in the section are closed against road traffic and then shall take "OFF" the concerned route starter and Advanced starter signal. The 'OFF' aspect of the concerned 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 shall be followed.

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

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

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

6.7 TRAINS RUNNING THROUGH: -

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

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

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

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

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

He shall also report to the SM on duty for taking further suitable action in terms of SR 4.42.02(d).

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

In case of failure of S&T equipment 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 sections 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 SECTIONS

In case of failure of track Sections monitored by MSDAC, the clearance of the concerned line should be ensured physically before a train is piloted/admitted on calling on signal.

6.8.3 AXLE COUNTER

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

6.8.4 **DEFECTIVE SIGNALS:**

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

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

6.8.5 **BLOCK INSTRUMENT/BLOCK PANEL**

In the event of partial/total failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer SR 6.02.03, SR 6.02.04 & 6.02.06]

Both UP and DN advanced Starters are electrically interlocked with respective block instruments so that the same cannot be taken off unless the concerned block instrument is in line clear position (TGT). When the block instrument is suspended, the concerned Advanced Starter must also be treated as suspended.

During the failure of DLBI of the section NRLR- LJR&NRLR-RPRD, the authority will be T/369(3b) with identification number & Private Number issued from the station in advance written both in figure and words.

During the failure of Block Panel (UFSBI) between NRLR-RPRD and NRLR-LJR sections on 3rd line the authority will be Paper Line Clear Ticket.

6.8.6 **DEFECTIVE INTERLOCKING**

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

6.8.7 **DEFECTIVE/DAMAGED POINTS**

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

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

6.8.8 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

Before declaring a signal is defective, the setting of the point on the route to which it applies shall be inspected by the Station Superintendent/Station Master irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.69, 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 3.68, 3.69 and 3.77]

6.8.9 .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 Dolly's 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 sections, trolleys, motor trolleys, Lorries etc which are not insulated, shall not be allowed to run except on line clear.
- ii) Motor trolleys / tower wagons / material Lorries are not likely to actuate the axle counter correctly.
- iii) In all other respects, the working of a light Motor trolley shall conform to the rules laid down for ordinary trolleys while running without block protection and to those laid down for motor trolleys while running under block protection or following another light motor trolley or a motor trolley.

7. BLOCKING OF LINES: -

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. 'Line Block' is to be activated on VDU by SM on duty following procedures as laid down in para no. 6.2.2. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23, SR5.04.01 (a) and SR 5.23.01(a)]

7.1 LINE BLOCK FEATURE IN VDU –

Line block feature identical to conventional panel is incorporated in VDU panel of NRLR station for blocking of a running line which is blocked either by loose vehicles or by stabling of a train or by a train which is to cross or give precedence to another train. For blocking/unblocking of line, SM on duty has to

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

7.2 SECURING OF VEHICLES :-

No load should be stabled in non-isolated lines without live locomotive is attached. Otherwise vehicle shall be secured. As far as practicable, loose vehicles shall not be allowed to stand on the running line. However, under unavoidable circumstances, if it is necessary to detach vehicles from a train or to stable a train and leave them standing on running line, SM on duty shall be responsible to secure vehicles/stable loads in accordance with GR 5.23 and SR 5.23.01 to prevent rolling down of vehicles and arrest obstruction & fouling of line.

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

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

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

7.5 LOADING AND UNLOADING OF VEHICLES ON RUNNING LINE:-

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

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

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

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

8.0 SHUNTING: -

8.1 GENERAL PRECAUTIONS: - (i) The rules laid down in GR 3.46, 3.52 to 3.56, 5.13 to 5.23, 8.05(2) (3), 8.06, 8.09, 8.10, 8.12, 8.13 and 8.14, 8.15 (c) with relevant SRs shall be observed. All shunt movement shall be supervised by Guard/SS/SM/Point man on duty vide SR 5.13.03 as the case may be. In the event of any non-signaled movement, the SM on duty shall ensure physical verification of the clearance of the crossover points. The staff supervising shunting shall ensure correct setting of both facing and trailing points, clamping and pad locking of points, if necessary.

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:.

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

8.3 PROHIBITION OF SHUNTING SPECIAL FEATURES IF ANY:

- (i) Hand shunting /Fly shunting/ Loose shunting is prohibited at both ends of the yard.
- (ii) Shunting through Main Signal is prohibited.

8.4 SHUNTING ON SINGLE LINE:

- i) Within Station section: Governed by GR 8.10.
- ii) Between last stop signal and opposite first stop signal: Governed by GR 8.12.
- iii) Beyond opposite first stop signal: unless the line is blocked back, the line outside the first stop signal shall not be obstructed vide GR 8.13.
- iv) During failure of block instrument: Block back messages shall be exchanged between station master at either end of such section which is intended to obstruct supported by private number. Both the station masters shall fix line block labels on block instruments and shall continue shunting.

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

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

Not Applicable

9.0 ABNORMAL CONDITIONS: -

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

[I] PARTIAL FAILURE OF COMMUNICATION: -

In the event of suspension of Lock and Block Instrument and during partial failure of other available means of communication, the procedures detailed in G &SR and BWM shall be followed for working of trains in different situations.(Refer BWM Chapter-III and SR 6.02.06)

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

Rules and Regulations for working of trains on an obstructed line in case of obstruction or accident on the authority of Block Ticket (T/A-602) when communications are available shall be followed in accordance with the provisions [Refer SR 6.02.05]

[III] TRAINS DELAYED IN BLOCK SECTION: -

If a train carrying passenger does not arrive within 10 minutes or if a goods train does not arrive within 20 minutes after allowing for its normal running time from the station in rear, the SM at the station in advance shall immediately advise the station in rear and the control this fact. There after SMs at either end of the double line or multiple line section shall immediately stop all trains proceeding in to the block section on adjacent line in either direction and warn the Loco pilots and Guards of such trains by issue of suitable Caution Orders. [Refer GR 6.04 & SRs thereto]

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

[V] FAILURE OF LV AXLE COUNTER: -

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

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

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

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

To take 'OFF' a calling on signal during failure of track section 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, MSDAC/AXLE COUNTER AND INTERLOCKING:-

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

9.1 TOTAL FAILURE OF COMMUNICATION ON SINGLE LINE SECTION (SR 6.02.04):

In the event of total interruption of communication occurring between NRLR-RPRD and NRLR-LJR i.e when line clear cannot be obtained by one of the following means stated in order of preference viz

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

- f) VHF sets, actions shall be taken as per SR 6.02.04. The train which is to be dispatched to the affected section will be stopped and the Loco Pilot and Guard of the train shall be informed about the fact.

Before dispatching the Light engine/main engine/motor trolley/Tower wagon/Trolley/Cycle trolley/Moped trolley/Diesel car/rail motor car/EMU rake, the SM on duty shall hand over an Authority i.e. T/B 602 for opening of communication during total failure of communication on Single Line Section to the driver /motorman/Guard/SM who is being sent to open communication, which includes.

- 1) An authority to proceed without "Line Clear".
- 2) A Caution Order restricting to speed of the train to 15Kmph by day when the view ahead is clear and 10 Kmph during night or when view ahead is obstructed in addition to other speed restrictions in force.
- 3) Authority to pass the Last Stop Signal at 'ON' position.
- 4) A "Line Clear" enquiry message (T/E602) asking "Line Clear" for the awaiting Train (T/F602).
- 5) A conditional "Line Clear" message for the light engine to return with or without a train attached, supported by a Private Number.

On arrival of the engine at the next station, the conditional "Line Clear" message and enquiry message shall be collected by the SM on duty who shall prepare conditional "Line Clear" ticket (T/G602 or T/H602) for engine to return either light or a train attached to it and conditional "Line Clear" reply message for the enquiry message, giving "Line Clear" for the train waiting at the other end shall be handed over to the Driver of the light engine. On return trip, the Loco Pilot will come on booked speed subject to any other speed restriction in force.

As soon as any one of the means of communication has been restored the conditional "Line Clear" working of train shall be cancelled when there is no train in the affected block section and messages shall be exchanged supported by Private Number. The section controller shall be informed.

9.2 TOTAL FAILURE OF COMMUNICATION BETWEEN STATION ON DOUBLE LINE SECTION(SR 6.02.03):

In the event of total failure of communications between NRLR-RPRD and NRLR-LJR 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 sections or Axle counters,
- (b) Telephone attached to the Block Instruments,
- (c) Station to station fixed telephones wherever available,
- (d) Fixed telephones such as Railway auto phones & BSNL phones,
- (e) Control telephone, and
- (f) VHF set.

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

- (i) Each train before being allowed to enter into the Block Section should be stopped and the Guard and Loco Pilot of the train apprised of the situation.
- (ii) The SM will hand over an authority in form T/C-602. for working of train during total interruption of communication to the Loco Pilot of each train which shall include-
 - a) Authority to proceed without 'Line Clear'.

- b) Authority to pass the Last Stop Signal at its "ON" position.
- c) A caution order restricting the speed to 25KMPH by day when view ahead is clear and 10KMPH by night or when view ahead is not clear.
- (iii) No train shall be allowed to enter the Block Section until there is a clear interval of 30minutes between the train about to leave and the train, which has immediately proceeded.
- (iv) Fixed signals except the last stop signal may be taken "OFF" for the dispatch of the train and for the reception of the train at the next block station, reception signals may be taken off only after the train has been brought to a stand out side 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].

9.2.1 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION(SR 6.02.01):

During temporary single line working, when one line is clear and the other line is obstructed between NORLA ROAD-RUPRA ROAD or NORLA ROAD-LANJIGARH ROAD, the trains shall be worked as per the procedure, which is summarized as follows:

- (a) Before introducing single line working the SM on duty must satisfy himself on receipt of reliable information in writing 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, 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 exchange of Private Number.
- (e) After obtaining line clear for the train from the advance station the Loco Pilot must be given as-
 - (i) Authority for Temporary Single Line (TSL) working on double line (T-D/602) indicating there in
 - Caution order
 - The line on which single line working is introduced.
 - The kilometer of obstruction.
 - Any other speed restriction, if any existing.
 - Endorsement to inform all Gang man and 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) The approach stop signals at the station in advance may be taken “OFF”. In case a train proceeding on wrong line, the train shall be piloted out and at the receiving station, the train shall be piloted ‘IN’, on the authority of **T/510**. On being ensured that the obstructed line is clear and free from all obstructions, the SM will resume normal working after exchanging message with the SM of the other concerned end supported by exchange of 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 SR 6.02.02 should be followed.

9.2 THE AUTHORITY TO PROCEED IN OCCUPIED BLOCK SECTION IN CASE OF OBSTRUCTION ON LINE OR ACCIDENT SR 6.02.05:-

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

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

- a) The previous Block Ticket is collected and Cancelled or
- b) Necessary endorsement is given on the previous block ticket with the advise to wait at the site for a next train to follow or
- c) The previous train has met with an accident or has been disabled or
- d) The Block ticket has been cancelled from the Loco Pilot of the previous train by the official –in-charge at the site and kept in the personal custody & shall be kept until the arrival of the next train and such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.
- e) SM will suspend the Absolute Block System of Working and both SMs concerned should arrange for running of trains on the authority of Block Ticket.
- f) SM at the dispatching end will hand over to the driver the block Ticket i.e T/A 602 as the authority which shall include:
 - i. Caution Order: Existing Speed Restriction/s shall be indicated in the Caution Order portion. The Speed Restriction to 15 KMPH during clear visibility and 10 KMPH when visibility is obstructed shall be clearly indicated.
 - ii. An authority to pass the Stop Signal at “ON” position.
- g) Before resumption of normal working a message between the SMs of the concerned stations shall be exchanged with private number.[Ref SR 6.02.05(d)(vi)]

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

10. **VISIBILITY TEST OBJECT: -**

Common Loop Line No.1 Starter Signals at both ends are nominated as V.T.O to enable the SM on duty to take action in terms of GR 3.61 and SRs there to. The light of these signals shall be verified from the V.T.O platform earmarked for this purpose.

11. **ESSENTIAL EQUIPMENTS AT THE STATION: -**

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

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

The station has been provided with double Distant signals which give adequate pre-warning to the loco Pilot. Hence, placing of detonators in case of fog shall be dispensed with vide SR 3.61.01. However, Fog Signal Register shall be maintained as per GR 3.61 and Subsidiary Rules thereto. In charge of the station shall ensure that the information maintained in the register is kept upto date and is accurate in all respects. Transportation inspectors shall check the registers and also the stock of detonators on hand each time they visit the station and initial with date as an indication having done so.

Details

STATION DETONATOR REGISTER (OPT/124)

A Register regarding detonator is maintained at the station.

INSTRUCTIONS:

(a) This register contains the following parts.

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

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

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

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

(b) In charge of the station shall ensure that the information maintained in the register is kept upto date and is accurate in all respects.

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

CERTIFICATE:-

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

APPENDICES

- APPENDIX 'A' -- WORKING OF L.C. GATES.**
- 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.**
- APPENDIX 'G' -- WORKING OF TRAINS IN ELECTRIFIED SECTIONS.**

APPENDIX – ‘A’

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

1.0 GATE WORKING INSRTUCTIONS OF “SPL” CLASS ENGINEERING INTERLOCKED LEVEL CROSSING GATE NO.RV-196 AT KM 237/11-13 (UP) KM 237/12-14 (DN) KM 237/12A-14A(3RD LINE) IN BETWEEN NRLR-RPRD STATIONS.

1.1. GENERAL DESCRIPTION:-

1.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of level crossing gate	:	RV-196
2.	Engineering or Traffic Gate	:	Engineering ‘SPL’ class
3.	Under control of Station Master or SSE(P.WAY)	:	SSE/P way/NRLR
4.	Location at KM	:	237/11-13(UP), 237/12-14(DN), 237/12A-14A(3 RD)
5.	At station	:	----
6.	In between station	:	NRLR-RPRD
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Multiple line
9.	Normal position	:	Open to road traffic
10.	Interlocked/Non-interlocked	:	Interlocked
11.	Means of interlocking	:	Panel interlocking, UP & DN gate stop signal.
12.	Provision of gate Signal at Kms	:	UP Line: KM 237/15-17. UP (3 rd): KM 237/15-17. DN Line: KM 237/6-8. DN (3 rd): KM 237/6-8
13.	Signaling arrangement	:	MACLS, UP & DN gate stop signal and inner Distant & Distant signals.
14.	Means of communications /Telephone with or without Voice logger	:	Voice logger telephone with gate from the SM Office /NRLR.
15.	Width of Level Crossing Gate	:	7.5 MTRS
16.	Type of Road (NH/SH/Others)	:	SH
17.	Name of Road	:	Norla-Bhawanipatna
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	7.5 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	90 Degree
22.	Road Gradient (if any)	:	(a) East/North side – Level (b) West/South side – Level
23.	Road alignment (straight/curve)	:	(a) East/North side – Straight (b) West/South side - Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Electrically Operated Lifting barrier
26.	Length of check Rail	:	9.50 MTRS.

27.	Road surface in between LC gates.	:	CC BLOCK
28.	Length of Rumble strip/speed breakers.	:	7.5 MTRS
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Provided.
31.	TVU	:	213000 on 10/2024
32.	Census next due on	:	10/2027
33.	Demarcation for placement of detonators.	:	Provided.
34.	No. of Gatekeepers working	:	03 (08 Hours shift)
35.	Nearest Railway Medical Assistance	:	TIG
36.	Nearest Private Medical Assistance available (if any)	:	NRLR
37.	List of equipment available Yes / No.	:	YES

1.2 EQUIPMENTS TO BE AVAILABLE AT THE GATE:

ITEMS	QUANTITY/NUMBERS
1. LED based flashing tri colour hand signal lamp	3
2. Hand signal Flag Green	1 mounted on sticks
3. Hand Signal Flag Red.	3
4. Banner Flag Red	3
5. Posts for exhibiting red banner flag	2
6. Spare chains with padlocks	2 with stop mark
7. Detonators	10 in tin case
8. Gate Lamps	2
9. Tommy Bar	1
10. Mortar Pan	1
11. Spade/Fowrah	1
12. Rammer	1 (in case of asphalted road this may not be provided)
13. Pick Axe	1 (in case of asphalted road this may not be provided)
14. Tin case for flags	1
15. Water pot/Bucket	1
16. Canister for Muster Roll	1
17. Set of spare spectacles of Gatekeeper wearing glasses.	1
18. Board demarcating protection of level crossing Gate diagram in case of obstruction on Gate	1
19. Basket	1
20. Whistle	1
21. Wall clock	1
22. Small size chains with padlocks to be used in case of failure of boom lock.	2

1.3 RECORDS TO BE KEPT AT GATE LODGE:

- Gate working instructions in Hindi / English.
- Gate working instructions in local vernacular language.
- Gatekeeper Rule Book in Local vernacular language.
- List for tools and books.
- Duty Rosters.
- Certificate of competency for working as Gatekeeper.

- vii) Bio–Data particulars of Gatekeepers, including date of passing vision test, initial/refresher course, safety camp etc.
- viii) Accident Register.
- ix) Records of last census of road traffic at LC gate.
- x) Public complaint Book.
- xi) Inspection Book.
- xii) S&T Register.

1.4 DUTIES OF GATE KEEPER:

1. ALERTNESS:

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

2. POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATEKEEPER:

- i) Gatekeeper shall ensure that red banner flag by day and red light by night is placed across the track in case of emergency and obstruction on the track.
- ii) Gatekeeper shall ensure that all gate light and hand signal lights are lighted and kept burning continuously from sunset to sunrise.
- iii) Gatekeeper shall perform his duties strictly according to the duty roster and shall not leave the gate unless his reliever arrives and takes over charge from him. However, if it is necessary to leave the gate in an emergency, he must close and lock the gate against road traffic, before leaving the gate.
- iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- v) Gatekeeper shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle/wagons /trains/battery/box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi) Gatekeeper shall also be prepared to repeat any signal which TMR may give to Loco Pilot.
- vii) If lifting barriers get damaged or becomes out of order, the Gatekeeper shall use the spare chain with disc and padlocks for securing the gate against road traffic.

- viii) Gatekeeper shall report to the nearest Station Master, Gang mate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- ix) Gatekeeper shall wear badge and prescribed uniform while on duty at level crossing gate.
- x) Gatekeeper shall ensure that he is having competency certificate in his possession while on duty.
- xi) Gatekeeper shall work the gate as per gate working instructions and remain well conversant with these instructions.
- xii) Gatekeeper shall ensure that equipments supplied at the gate is in good order and ready for immediate use.
- xiii) Gatekeeper shall see that the channel for the flange of the wheel is kept clear.
- xiv) Gatekeeper must keep the road surface well-watered and rammed in case of non-metalled roads.
- xv) Gatekeeper must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvi) Gatekeeper shall prevent tress passing by persons or cattle to the maximum extent.
- xvii) Gatekeeper on electrified section shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the Level crossing gate.
- xviii) Before opening the gate, he shall ensure that the train has passed complete over the level crossing by observing the last vehicle indicator of the train.
- xix) In the event of gate signal becoming defective the gatekeeper shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

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

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

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

THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER: -

(A) ON ELECTRIFIED SECTION:

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

(B) PROTECTION ON DOUBLE LINE:-

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

(C) PROTECTION ON SINGLE LINE SECTION:

- i) If the line is obstructed the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away from the direction on which train is expected to arrives first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
- iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed on the other side, 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 gatekeeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(D) ON MULTIPLE LINE SECTION (THIRD LINE):

- i) If all lines are obstructed, the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away (in the direction from which train comes in UP and DN line and in both direction for third line) on posts duly provided for the purpose. He shall first protect the line on which train is expected to arrives first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
- iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.

- vii) In case the gatekeeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(E) OTHER ACTIONS TO BE TAKEN BY GATEKEEPER:

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

1.5. ENGINEERING ITEMS

(i) VISIBILITY

DIRECTION	SIDE	VISIBILITY DISTANCE
UP	RIGHT	800
	LEFT	800
DN	RIGHT	800
	LEFT	800
3 rd LINE	RIGHT	800
	LEFT	800

(ii) Speed Breakers:- Speed Breakers of approved Design are provided on either side of the Level Crossing.

(iii) Periodical Census of traffic has been taken and the recent TVU is **213000** as on **10/2024**.

1.6. SPECIAL INSTRUCTIONS

1. MODE OF OPERATION:

This is an interlocked L.C.Gate situated at KM 237/11-13 (UP LINE) KM 237/12-14 (DN LINE) **KM.237/12A-14A (3rd)** in between Norla Road and Rupra Road stations. Telephone communication of Voice logger is provided between the L C. gate lodge and SM office of NRLR Station. The level crossing gate is of lifting barrier type and motor operated by means of **motor** from panel provided at the gate lodge. The normal position of the gate is open to road traffic. The key "K" of the LC normally remains locked in the EKT-1 when the gate is in open condition. When it is necessary to close the gate, for taking off gate signals for the trains passing, the SM on duty shall inform the gate man to close and lock the gate and take off concerned signals. The gate man on duty shall close the barriers of the LC gate by operating the RED push button provided on the panel. Gate man will keep the red push button till gate is closed & locked against road traffic and the red indication appears on the panel. Then key 'K' is to be extracted from EKT-1 and inserted in EKT-2 and turned. Key IN contact of EKT-2 along with reversal of Concerned gate signal switches to take off gate signals i.e (a) Switch GS-3

releases UP Gate signal No.3 of UP line. (b) Switch GS-4 releases DN Gate signal No.GS 4 of DN line(c) Switch GS-5 releases UP Gate signal No.GS-5 of 3rd line(d) Switch GS-6 releases DN Gate signal No.GS-6 of 3rd line.

After passage of the Train, the gateman extracts the control key 'K' from the EKT-2.whichcan be released after passing of trains through sequential occupation and clearance of concerned track circuits and insert in EKT-1..The **Gatekeeper** will get a gate free indication on panel and subsequently the gate can be opened by pressing the GREEN push button till gate is fully opened. The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01 (a). DN Adv. starter sig.no.S26 & S28 of Norla Road station are released by Gate stop signal No. GS6 & GS4 respectively.

During Non-Interlocking working the **Gatekeeper** shall be informed and the Train shall be passed in terms of SR 3.73 and 3.70.03 after ensuring correct closing and locking of L.C Gate. During this period the L.C Gate shall be opened only when necessary and safe to do so.

Incase of Emergency/ failure in extracting key-K from EKT, **Gatekeeper** will inform SM/NRLR under exchanging of private number. Then one emergency key 'L' Electro mechanically free provided in a red sealed glass box and the barriers are to be opened by manual operation of lifting barriers by crank handling. Concerned signals will be put back to "ON" position when emergency key "L" is extracted from EKT-3. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the **Gatekeeper**.

Approach warning is provided at this LC Gate which is effective from GS3ATfor UP Main line and GS5AT for 3RD line in UP direction. For DN direction 28AXT and 3XT for DN main and 3rd line respectively.

Description of the Panel switches on the operating Panel:

- a) GS-3 –Control switch for operating UP Gate Stop Signal.
- b) GS-4 –Control switch for operating DN Gate Stop Signal.
- c) GS-5 –Control switch for operating UP Gate Stop Signal of 3rd Line.
- d) GS-6 –Control switch for operating DN Gate Stop Signal of 3rd Line.

MODE OF OPERATION OF SLIDING BARRIERS

1. Key 'S' when extracted from lock free EKT 5 makes Road signals danger and activates Road Hooter. Key 'S' unlocks the sliding Barrier- 1.
2. Sliding Barrier -1 to be rolled across the road up to lock post, Key(Chained with Barrier) releases the lock plunger and Key SB-1 when extracted lock the Sliding Barrier-1.
3. Similarly after unlocking the Pad Lock Sliding Barrier-2 to be rolled across the Road Up to lock post, Key(Chained with Barrier)along with Key SB-1 inserted releases the Lock plunger and Key SB-2,Key SB-2 when extracted lock the Sliding Barrier-2..
4. Finally released Key SB-2 is transmitted Electrically to SM through EKT-4 in conjunction with slot 'GS' reversed for taking off concerned signals.

2. INTIMATION TO GATEMAN

- (i) Immediately after departure of the train from the adjacent station RPRD or before taking off DN departure signals SS/SM shall advise the gateman through telephone , the number , description , direction and expected time of passage of the train at the gate , under exchange of private number..

- (ii) The **Gatekeeper** shall immediately close and lock the gate and take off concerned Gate signals.
- (iii) If the actual running time of the train from either end of the section is less than 10 minutes SS/SM will convey this advice to the **Gatekeeper** before obtaining /granting line clear.
- (iv) It should be the duty of the **Gatekeeper** to ensure that the gate is closed in time so that there is no detention to the train and excessive detention to train traffic.

1.7 FAILURE OF TELEPHONIC COMMUNICATION :

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

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

1.8 FAILURE OF LIFTING BARRIERS :

- i) When the gate cannot be closed due to failure of lifting barriers, the Gate Keeper will immediately inform, the Station Master on duty/ NRLR under exchange private number, and ensure the lifting barriers of gate do not foul the track. Then he shall resort to operate the sliding barrier to close against the road traffic. If both the lifting barrier and sliding barrier became defective, then he shall take the following action.
- ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- iii) Gate Keeper shall secure the gate against road traffic by means of safety chains and padlocks.
- iv) After securing the gate against road traffic, Gate Keeper shall show green hand signal flag by day and green light by night to the Loco Pilot of the approaching train.
- v) Station Master on duty/ NRLR shall issue a caution order to the Loco Pilot of a departing train.
- vi) He shall also advise the station Master/RPRD at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train into the block section from his end.
- vii) Station Master/ NRLR will advise maintenance staff responsible for maintenance of lifting barriers to repair the defect at the earliest.

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

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

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

- (i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gatekeeper must immediately inform the Station Master/ NRLR on duty on telephone, under exchange of private number.
- (ii) For emergency opening of the gate, he will extract key-L from EKT kept in the red sealed glass box which is mechanically free & electrically proved. Concerned signals will be put back to "ON" position when emergency key is extracted. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gatekeeper.
- (iii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/dispatch of trains as prescribed for non-interlocked gates should be adopted.
- (iv) Station Master on duty/ NRLR shall issue caution order to the Loco Pilot of a departing train.
- (v) He shall also advise the Station Master/ RPRD at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train into the block section his end.
- (vi) Station Master/ NRLR shall advise S&T staff responsible for maintenance the key transmitter to repair the same at the earliest.
- (vii) Normal working will be resumed only after S&T staff repair the key transmitter and issue reconnection/fit memo for the same.

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

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

1.11 DEFECTIVE GATE SIGNALS:

- (i) The gatekeeper shall treat the gate signal as defective and must not lower them under following circumstances:
 - (a) If gate signals can be taken 'OFF' without closing the gate, or
 - (b) The key can be extracted from the operating winch when the gate is in open condition, or

- (c) The key can be extracted from the gate lever when the gate is in open condition.
- (ii) If the Gate or the Gate Signal or Distant Signal becomes defective in 'OFF' position, the gatekeeper will make all efforts to put it at 'ON' position even by cutting signal wire/power, if necessary.
- (iii) The gatekeeper will immediately advise the Station Master on duty/ NRLR, under exchange of private number, regarding defective gate signals.
- (iv) Thereafter, the gate must be treated as non-interlocked and procedure for reception/dispatch as prescribed for non-interlocked gates should be adopted.
- (v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- (vi) Station Master on duty/ NRLR will issue a caution order to the Loco Pilot of departing train.
- (vii) He shall also advise the Station Master/ RPRD under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching train in the block section from his end.
- (viii) Station Master/ NRLR shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- (ix) Normal working will be resumed only after S&T staff rectify the defective gate signal and issue reconnection/fit memo for the same.

1.12 OBSTRUCTION AT THE GATE:

- i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately normalize GS switch to put back concerned signals and then fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- ii) Immediately after this, the gatekeeper shall inform the Station Master / NRLR on duty, regarding the defects/obstruction at the gate, under exchange of private number.
- iii) Station Master / NRLR 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/ NRLR after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of Gatekeeper under item No.1.4(5).
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the station Master/ NRLR who shall not start the trains unless he has been assured by the Gatekeeper that the road vehicle or the lifting barriers are not fouling the track.
- viii) The Station Master/ NRLR shall also inform the station Master / RPRD at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.
- ix) After the track has been cleared of all obstructions the gatekeeper shall inform the Station Master/ NRLR accordingly, under exchange of private number.
- x) Gatekeeper shall secure the gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the gate is not obstructed.
- xi) Station Master/ NRLR shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.

- xii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.
- xiii) Station Master/ NRLR shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the Gatekeeper, if the gate is broken, but is clear of any obstruction.

1.13. OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gatekeeper, the gatekeeper and Station Master will adopt the procedure given under item No.1.12 above. If the obstruction fouls the level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstructions.

1.14. ACCIDENTAL ROLLING DOWN OF TRAINS:

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

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

CERTIFICATE: -

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

2. GATE WORKING INSTRUCTIONS OF “C” CLASS TRAFFIC INTERLOCKED LEVEL CROSSING GATE NO.RV-198 AT KM 239/11-13 (UP) KM239/12-14 (DN) 239/12A-14A (3RD) IN NRLR YARD AT LANJIGARH ROAD END.

2.1. GENERAL DESCRIPTION:-

2.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of Level Crossing Gate:	Rv-198
2.	Engineering or Traffic Gate:	Traffic
3.	Under control of Station Master / SSE(P.WAY)	SS/NRLR
4.	Location at KM:	239/11-13(UP), 239/12-14(DN) 239/12A-14A(3 rd)
5.	At Station:	NRLR
6.	In between stations:	NRLR-LJR
7.	BG/MG/NG:	BG
8.	Single line / Double line / Multiple line:	Multiple Line
9.	Normal Position:	Open to Road Traffic.
10.	Interlocked / Non-Interlocked:	Inter locked.
11.	Means of Interlocking	Key transmission.
12.	Provision of Gate signal at Kms.	Interlocked with station signals.
13.	Signaling arrangements:	MACLS
14.	Means of communications /Telephone with or without Voice logger	Push button Telephone from Gate Lodge to SM/ MNGD
15.	Width of level crossing gate:	7.5 M.
16.	Type of road (NH/SH/Others):	State highways
17.	Name of Road:	SH-201
18.	Metalled / non-metalled:	Metalled.
19.	Approach road:	Metalled
20.	Width of the road:	5.5 M
21.	Angle of road crossing (in case of the skew gates):	90 Degree
22.	Road gradient (if any)	(a)East/North side: Level. (b)West/South side: Level.
23.	Road alignment (straight/curve)	(a)East/North side: Straight (b)West/South side: Straight
24.	Provision of height gauges:	Provided
25.	Type of Barriers:	Electrically Operated Lifting Barrier with sliding boom
26.	Length of Check rails:	9.5 M
27.	Road surface in between LC gates:	CC Block, Metalled
28.	Length of Rumble strip / speed breakers:	7.5 M
29.	Road signs:	Provided
30.	Speed breaker indication board:	Provided
31.	TVU:	12240 on 10/2024
32.	Census next due on:	10/2027
33.	Demarcation for placement of Detonators:	Displayed
34.	No. of Gatekeepers working:	02 (12 Hours Shift)
35.	Nearest Railway Medical Assistance	TIG
36.	Nearest Private Medical Assistance available (if any):	NRLR
37.	List of equipment available Yes / No:	Yes

2.2 EQUIPMENTS AT THE L.C.GATE-

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

2.3 RECORDS TO BE KEPT AT GATE LODGE:

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

2.4 DUTIES OF GATE KEEPER:

1. ALERTNESS:

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

2. POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATEKEEPER:

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

- xvi) Gatekeeper shall prevent tress passing by persons or cattle to the maximum extent.
- xvii) Gatekeeper on electrified section shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the Level crossing gate.
- xviii) Before opening the gate, he shall ensure that the train has passed complete over the level crossing by observing the last vehicle indicator of the train.
- xix) In the event of gate signal becoming defective the gatekeeper shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

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

5. ACTION IN EMERGENCY AT THE LEVEL CROSSING:

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

THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER: -

(A) ON ELECTRIFIED SECTION:

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

(B) PROTECTION ON DOUBLE LINE:-

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

(C) PROTECTION ON SINGLE LINE SECTION:

- i) If the line is obstructed the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away from the direction on which train is expected to arrive first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
- iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed on the other side, 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 gatekeeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place

detonators, he shall place detonators on the line at a distance as far away as he can go.

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

(D) ON MULTIPLE LINE SECTION (THIRD LINE):

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

(E) OTHER ACTIONS TO BE TAKEN BY GATEKEEPER:

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

6 ENGINEERING ITEMS

(i) VISIBILITY

DIRECTION	SIDE	VISIBILITY DISTANCE
UP	RIGHT	500
	LEFT	400
DN	RIGHT	400
	LEFT	500
3 rd LINE	RIGHT	400
	LEFT	500

- (ii) Speed Breakers:- Speed Breakers of approved Design are provided on either side of the Level Crossing.
- (iii) Periodical Census of traffic has been taken and the recent TVU is **12240** as on **10/2024**.

2.6 SPECIAL INSTRUCTIONS

1. MODE OF OPERATION:

This is an interlocked L.C.Gate situated at the Lanjigarh Road end of the yard at KM 239/11-13 (UP LINE) KM 239/12-14 (DN LINE) in between DN Home signals and UP advanced starter signals of NRLR station. Telephone communication is provided between the L C. gate lodge and SM office of NRLR Station. The level crossing gate is of lifting barrier type and motor operated by means of motor from panel provided at the gate lodge. The normal position of the gate is open to road traffic. The key "G" of the LC normally remains locked in the EKT-1 when the gate is in open condition.

When it is necessary to close the gate, for taking off signals, the SM on duty shall inform the **Gatekeeper** to close and lock the gate. The gate man on duty shall close the barriers of the LC gate by operating the RED push button provided on the panel. Gate man will keep the red push button pressed till gate is closed & locked against road traffic and the red indication appears on the panel. Then key 'G' is to be extracted from EKT-1 and inserted in EKT-2. This Key 'G' will be transmitted electrically to SMVDU in conjunction with switch GS reversed to control concerned UP & DN signals, Switch 'GS' is provided in the panel to put back the concerned signal to 'ON' in case of emergency. After passage of the Train, the SM on duty shall inform the gateman and press LC gate controlling button No.48 and group button (trans) and the gate man extracts the control key 'G' from the EKT-2 and insert in EKT-1. During reception of down train once LC Gate is closed and Key 'G' is transmitted electrically to SM, Gate control-48 can be released after passing of trains through sequential occupation and clearance of concerned track sections. after passage of the train SM on duty shall grant permission and transmit the gate key by pressing gate control 48 and group trans button simultaneously. The key "G" can be extracted from EKT-2 and inserted in EKT-1 and turned. The gate can be opened by pressing the GREEN push button till gate is fully opened. The LC gate shall be so worked as to cause least possible

inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01 (a).

During Non-Interlocking working the Traffic **Gatekeeper** shall be informed and the Train shall be passed in terms of SR 3.69.06, and 3.70.03 after ensuring correct closing and locking of L.C Gate. During this period the L.C Gate shall be opened only when necessary and safe to do so.

Incase of Emergency/ failure in extracting key-G from EKT, one emergency key 'H' mechanically free & electrically proved is provided in a red sealed glass box and the barriers are to be opened by manual operation of lifting barriers by crank handling.

Concerned signals will be put back to "ON" position when emergency key "H" is extracted from EKT-3. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the **Gatekeeper**. During DN Home reception, once L.C. gate is closed & key "G" is transmitted electrically to SM, gate control No.48 can be released after passage of train through sequential occupation & clearance of concerned Track sections.

MODE OF OPERATION OF SLIDING BARRIERS

- a) Key 'S' when extracted from lock free EKT 5 makes Road signals danger and activates Road Hooter. Key 'S' unlocks the sliding Barrier- 1.
- b) Sliding Barrier -1 to be rolled across the road up to lock post, Key(Chained with Barrier) releases the lock plunger and Key SB-1 when extracted lock the Sliding Barrier-1.
- c) Similarly after unlocking the Pad Lock Sliding Barrier-2 to be rolled across the Road Up to lock post, Key(Chained with Barrier) along with Key SB-1 inserted releases the Lock plunger and Key SB-2, Key SB-2 when extracted lock the Sliding Barrier-2..
- d) Finally released Key SB-2 is transmitted Electrically to SM through EKT in conjunction with slot 'GS' reversed for taking off concerned signals.

1.1 EMERGENCY RELEASE OF GATE KEY

In the event of gate locked (Red) indication persists on SM's VDU even after train movement is completed or when it is required to open the gate due to emergency in gate locked condition on VDU the following procedure shall be adopted by both station master on duty and **Gatekeeper**.

1. Station Master on duty shall first cancel the signal by signal cancellation control of the relevant signal.
2. Station Master on duty then shall click on the 'Emergency gate release control' in the gate pop-up menu.
3. The 'Red' locked indication will flash for 120 seconds and after the time has elapsed the 'Red' indication will disappear.
4. Station Master on duty then shall transmit 'Gate Control' by clicking 'Transmit control' (48).

5. The 'Key In' indication (white) starts flashing suggesting the key is transmitted to **Gatekeeper**.
6. At gate lodge an indication will appear near EKT suggesting that the key can be released from the EKT for opening of the LC gate.
7. Seeing the indication gate man on duty shall extract the key from RKT and operate the gate.
8. On release of key from EKT flashing indication will disappear.
Any failure regarding transmission / extraction of gate key shall be intimated to the S&T officials for proper rectification. Till such time the failure is rectified the Station Master on duty shall pass the trains by P/IN or by P/OUT as the case may be.

2. INTIMATION TO GATEKEEPER-

- i) Before taking off reception/departure signals, Station Master/NRLR shall inform the **Gatekeeper**, the number, description, and direction of the train.
- ii) The **Gatekeeper** shall close the gate and transfer the key to the Station Master/ NRLR
- 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/ NRLR must ensure that the train is ready for departure in all respects before he advises the **Gatekeeper** for closing the gate.
- v) When a train has to be piloted to and from the station yard or any shunting movement is to be done, the staff deputed to pilot the train to perform the shunting across the gate shall be personally responsible to ensure that the gate is closed against road traffic before allowing any movement across the gate.

2.7 FAILURE OF TELEPHONIC COMMUNICATION:

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

- i) Station Master on duty / NRLR shall send written advice to the Gate Keeper through the porter with full details of number, description and direction of the train.
- ii) Gate Keeper on receipt of such advice shall close the gate and transmit the key to the Station Master, which will enable him to take 'OFF' reception/ Departure signals.
- iii) When sufficient time is not available because of greater frequency of train service, station Master/ NRLR will issue written authority to the train Loco Pilot to pass the signal at 'ON' position.
- iv) In addition, Station Master/ NRLR shall also issue a caution order advising the Loco Pilot to whistle continuously and approach the gate cautiously.
- v) The train Loco Pilot shall be instructed to pass the gate cautiously, on before signaled by the gatekeeper. If hand signal is not seen, Loco Pilot should be

prepared stop short of the gate and ensure that gate is closed following GR.3.73.

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

2.8 FAILURE OF LIFTING BARRIERS::

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

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

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

- i) If the gate cannot be opened then gatekeeper must immediately inform the Station Master on duty on telephone, under exchange private number.
- ii) Switch GS (Gate Slot) should be in normal position. If the gate cannot be opened from the Gate panel, emergency direct crank handle operation has to

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

- iii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.
- iv) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
- v) He shall also advise the Station Master at the other end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- vi) Station Master shall advise S & T staff responsible for maintenance of transmitter to rectify the defect at the earliest.
- vii) Normal working will be resumed only after S & T staff repairs the pedestal/gate operating panel/key transmitter and issue reconnection/ fit memo for

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

- i) If the gate cannot be closed from Gate panel then gatekeeper must immediately inform the Station Master on duty on telephone, under exchange of private number.
- ii) The gatekeeper on duty shall obtain permission from SM on duty under exchange of private number for breaking the seal for emergency operation. For this operation, a Red sealed glass box is provided at the gate lodge. A crank handle welded with EKT-H is provided in the sealed box. After breaking the seal, the EKT-H has to be taken out from the box which is mechanically free. Then the crank handle is to be inserted into the hole provided in the mechanism box rear door. For closing the barrier, rotate the crank handle clock wise direction. As soon as the crank handle is inserted electrical operation is automatically cut off and remains cut off till crank handle is removed from the hole. In addition to above facilities, individual operation of barriers are also provided. For individual barrier operation, barrier "A" and "B" can be operated from pedestal individually.
- iii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.

- iv) Station Master on duty shall issue caution order to the Loco Pilot of a departing train.
- v) He shall also advise the Station Master at the dispatching end, under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- vi) Station Master shall advise S & T staff responsible for maintenance of pedestal/gate operating panel/key transmitter to rectify the defect at the earliest
- vii) Normal working will be resumed only after S & T staffs repair the pedestal/gate operating panel/key transmitter and issues reconnection/ fit memo for the same.

2.11 OBSTRUCTION AT THE GATE:

- i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately normalize GS switch to put back concerned signals and then fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- ii) Immediately after this, the gatekeeper shall advise the Station Master/ NRLR on duty, regarding the defects/obstruction at the gate, under exchange of private number.
- iii) Station Master/ NRLR 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/ NRLR after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gate Keeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of Gate Keeper under item No.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/ NRLR who shall not start the trains unless he has been assured by the Gate Keeper that the road vehicle or the lifting barriers are not fouling the track.
- viii) The Station Master/NRLR shall also inform the station Master/LJR at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.
- ix) After the track has been cleared of all obstructions the Gate Keeper shall inform the Station Master/ NRLR accordingly, under exchange of private number.
- x) Gate Keeper shall secure the gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the gate is not obstructed.
- xi) Station Master/ NRLR shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.

- xii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.
- xiii) Station Master/ NRLR shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the Gate Keeper, if the gate is broken, but is clear of any obstruction.

2.12 OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gatekeeper and Station Master will adopt the procedure given under item No.2.11 above. If the obstruction fouls the Level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstruction.

2.13 ACCIDENTAL ROLLING DOWN OF TRAINS:

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

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

CERTIFICATE: -

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

3.0 WORKING INSTRUCTIONS FOR 'C' CLASS ENGG. NON-INTERLOCKED LEVEL CROSSING GATE NO.RV-199 AT KM 240/9-11(UP), 240/10-12(DN) KM.240/10A-12A(3RD) IN BETWEEN NRLR-LJR STATIONS.

3.1 GENERAL INSTRUCTIONS-

3.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of level crossing gate	:	RV-199
2.	Engineering or Traffic Gate	:	Engineering 'C' class.
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)
4.	Location at KM	:	240/9-11(UP), 240/10-12(DN) 240/10A-12A(3 rd)
5.	At station	:	----
6.	In between station	:	NRLR-LJR
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Multiple line
9.	Normal position	:	Close to road traffic
10.	Interlocked/Non-interlocked	:	Non-Interlocked
11.	Means of interlocking	:	Nil
12.	Provision of gate Signal at Kms	:	Nil
13.	Signaling arrangement	:	Nil
14.	Means of communications /Telephone with or without Voice logger	:	Voice Logger Telephone with gate from the SM Office /NRLR
15.	Width of Level Crossing Gate	:	7.5 MTRS
16.	Type of Road (NH/SH/Others)	:	Others
17.	Name of Road	:	Village Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	5.5 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	-----
22.	Road Gradient (if any)	:	(a) East/North side – Level (b) West/South side –Level
23.	Road alignment (straight/curve)	:	(a) East/North side – Straight (b) West/South side - Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Winch Operated Lifting barrier
26.	Length of check Rail	:	9.5 MTRS.
27.	Road surface in between LC gates.	:	CC BLOCK
28.	Length of Rumble strip/speed breakers.	:	7.5 MTRS
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Provided.
31.	TVU	:	11136 on 10/2024
32.	Census next due on	:	10/2027
33.	Demarcation for placement of detonators.	:	Displayed
34.	No. of Gatekeepers working	:	02 (12 Hours shift)
35.	Nearest Railway Medical Assistance	:	TIG
36.	Nearest Private Medical Assistance available (if any)	:	NRLR
37.	List of equipment available Yes / No.	:	YES

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

ITEMS	QUANTITY/NUMBERS
1. LED based flashing tri colour hand signal lamp	3
2. Hand signal Flag Green	1 mounted on sticks
3. Hand Signal Flag Red.	3 mounted on sticks
4. Banner Flag Red	3
5. Posts for exhibiting red banner flag	2
6. Spare chains with padlocks	2 with stop mark
7. Detonators	10 in tin case
8. Gate Lamps	2
9. Tommy Bar	1
10. Mortar Pan	1
11. Spade/Fowrah	1
12. Rammer	1 (in case of asphalted road this may not be provided)
13. Pick Axe	1 (in case of asphalted road this may not be provided)
14. Tin case for flags	1
15. Water pot/Bucket	1
16. Canister for Muster Roll	1
17. Set of spare spectacles of Gatekeeper wearing glasses.	1
19. Board demarcating protection of level crossing Gate diagram in case of obstruction on Gate	1
19. Basket	1
20. Whistle	1
21. Wall clock	1
22. Small size chains with padlocks to be used in case of failure of boom lock.	2

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

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

3.4 DUTIES OF GATEKEEPER:

1. ALERTNESS:

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

2. POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATEKEEPER:

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

- xiv) Gatekeeper must keep the road surface well-watered and rammed in case of non-metalled roads.
- xv) Gatekeeper must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvi) Gatekeeper shall prevent trespassing by persons or cattle to the maximum extent.
- xvii) Gatekeeper on electrified section shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the Level crossing gate.
- xviii) Before opening the gate, he shall ensure that the train has passed completely over the level crossing by observing the last vehicle indicator of the train

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER: -

(A) ON ELECTRIFIED SECTION:

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

- ii) As soon as it is noticed that, Pantograph of an electric rolling stock getting damaged and/or entanglement of the same with the OHE, he shall make every possible effort to stop the train and immediately inform SM on duty.
- iii) Any damage to the track or structures of the OHE comes to the notice of on duty GK, he shall immediately inform SM on duty and take all necessary measure for protection of the line as under,

(B) PROTECTION ON DOUBLE LINE:-

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

(C) PROTECTION ON SINGLE LINE SECTION:

- i) If the line is obstructed the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away from the direction on which train is expected to arrives first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
- iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10

meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

- v) Thereafter, he shall proceed on the other side, 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 gatekeeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(D) ON MULTIPLE LINE SECTION (THIRD LINE):

- ix) If all lines are obstructed, the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away (in the direction from which train comes in UP and DN line and in both direction for third line) on posts duly provided for the purpose. He shall first protect the line on which train is expected to arrive first.
- x) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
- xi) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- xii) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- xiii) 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.
- xiv) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
- xv) In case the gatekeeper 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.
- xvi) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(E) OTHER ACTIONS TO BE TAKEN BY GATEKEEPER:

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

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

3.5 ENGINEERING ITEMS

(i) VISIBILITY

DIRECTION	SIDE	VISIBILITY DISTANCE
UP	RIGHT	1000
	LEFT	800
DN	RIGHT	800
	LEFT	1000
3 rd LINE	RIGHT	800
	LEFT	1000

- (ii) Speed Breakers:- Speed Breakers of approved Design are provided on either side of the Level Crossing.
- (iii) Periodical Census of traffic has been taken and the recent TVU is 11136 as on 10/2024.

3.6 SPECIAL INSTRUCTIONS-

1. MODE OF OPERATION:-

This is a Manned & Non-interlocked Engineering L.C.Gate situated at Km 240/9-11(UP), 240/10-12(DN) 240/10A-12A(3rd) in between NRLR-LJR Stations. This gate is provided with winch operated coupled lifting barriers and the gate is closed/opened by the gateman manually by winch operation. Telephone communication is provided between the L C. gate lodge with SM office of NRLR station. The level crossing gate is normally kept closed and locked against road traffic. The Station Master/ NRLR shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the Gatekeeper supported by exchange of private number. When the gateman desires to open the gate for passage of road traffic he should ensure that no PN has been exchanged with the Station Master/ NRLR for the passage of train or the whole of the train with last vehicle indicator has passed over the level crossing gate for which the Gatekeeper has exchanged private number with the SM/NRLR. Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate.

2. EXCHANGE OF PRIVATE NUMBERS:

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

- (ii) The Station Master / NRLR before permitting each train to enter into the block section, shall ask Gateman on the telephone by giving a Private Number whether, gate is closed against road traffic for the passage of train. The **Gatekeeper** only after ensuring that the gate is actually closed and locked against road traffic shall give a Private Number to the Station Master / NRLR in assurance of gate being closed and locked against road traffic.
- (iii) The Station Master / NRLR shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the **Gatekeeper** supported by exchange of private number.
- (iv) When the **Gatekeeper** desires to open the gate for passage of road traffic he should ensure that:
 - (a) He has not exchanged any private number with the SM / NRLR as per (ii) above.
 - (b) If he has exchanged private number with the Station Master / NRLR , the whole of the train with last vehicle indicator has passed over the level crossing gate and Station Master / NRLR has not exchanged private number with him for any other movement of traffic. Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate. Then he shall open the gate for passing the road traffic, keeping a red flag / red hand signal lamp ready in his hand to stop approaching train if any.
- (v) In case the **Gatekeeper** is not responding on the telephone or in case the telephone becomes defective or private number is not received from the **Gatekeeper**, the Station Master/ NRLR shall adhere to the procedure prescribed in SR 16.03.04.
- (vi) In the event of failure of telephone, if the gate is required to be opened for the passage of road traffic, the **Gatekeeper** shall look out in both directions before opening the gate to ensure that no train is approaching from either end. He shall then plant a banner flag during day and a hand signal lamp with the red light during night, 5 meters away from the gate on the track on either side. He will thereafter, open the gate for passing the road traffic keeping a red flag / red hand signal lamp ready in his hand to stop approaching train if any.

3.7 FAILURE OF TELEPHONIC COMMUNICATION:

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

- i) Station Master/NRLR shall issue caution order to the Loco Pilot of the departing train.
- ii) In the caution order, it shall advice the Loco Pilot to whistle continuously and approach the gate cautiously.
- iii) The Loco Pilot shall be instructed to pass the gate cautiously, on being hand signalled by the gatekeeper. If hand signal is not seen, the Loco Pilot should

be prepared to stop short of the gate and depute his Assistant Loco Pilot to see the condition of the gate. If gate is closed, ALP will give all right signal and if gate is not closed, the ALP must close the gate and then give all right signal. In the absence of the ALP, the LP may take the assistance of TMR.

- iv) In case of an approaching train, the SM shall advise the SM at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- v) The SM at the dispatching end shall then issue a caution order to the LP before dispatching a train in the block section from his end.
- vi) The SM shall advise the GK through gang man/patrol man or the LP of the first train that the telephone has become defective.
- vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection/fit memo for the same.

3.8 FAILURE OF LIFTING BARRIERS OF GATE:

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

3.9 OBSTRUCTION AT THE GATE:

- i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately fix red banner flag by

- day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- ii) Immediately after this, the gatekeeper shall advise the Station Master/ NRLR on duty, regarding the defects/obstruction at the gate, under exchange of private number.
 - iii) Station Master/ NRLR 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/ NRLR after two or three attempts, he shall first protect the gate and then inform on phone.
 - v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gatekeeper under item No.3.4(5).
 - vi) Thereafter he shall protect the gate from the other direction also.
 - vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the Station Master/ NRLR who shall not start the trains unless he has been assured by the gatekeeper that the road vehicle or the lifting barriers are not fouling the track.
 - viii) The Station Master/ NRLR shall also inform the Station Master/ LJR at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.
 - ix) After the track has been cleared of all obstructions the gatekeeper shall inform the Station Master/ NRLR accordingly, under exchange of private number.
 - x) Gatekeeper shall secure the gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the gate is not obstructed.
 - xi) Station Master/ NRLR shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
 - xii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.

3.10 OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gatekeeper, the gatekeeper and Station Master/ NRLR will adopt the procedure given under item No. 3.9 above. If the obstruction fouls the level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstruction.

3.11 ACCIDENTAL ROLLING DOWN OF TRAINS:

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

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

CERTIFICATE: -

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

4.0 GATE WORKING INSTRUCTIONS OF “C” CLASS ENGG. NON-INTERLOCKED LEVEL CROSSING GATE NO -RV-200 AT KM 241/7-9 (UP), KM 241/8-10(DN) 241/8A-10A(3rd LINE) IN BETWEEN NRLR-LJR STATIONS.

4.1 GENERAL INSTRUCTIONS:

4.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of level crossing gate	:	RV-200
2.	Engineering or Traffic Gate	:	Engineering
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)
4.	Location at KM	:	241/7-9(UP), 241/8-10(DN) 241/8A-10A(3 rd Line)
5.	At station	:	----
6.	In between station	:	NORLA ROAD-LANJIGARH ROAD
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Multiple line
9.	Normal position	:	Close to road traffic
10.	Interlocked/Non-interlocked	:	Non-Interlocked
11.	Means of interlocking	:	Nil
12.	Provision of gate Signal at Kms	:	Nil
13.	Signaling arrangement	:	Nil
14.	Means of communications /Telephone with or without Voice logger	:	Voice Logger Telephone with gate from SM Office /NRLR.
15.	Width of Level Crossing Gate	:	7.5 MTRS
16.	Type of Road (NH/SH/Others)	:	Others
17.	Name of Road	:	Village Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	5.5 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	----
22.	Road Gradient (if any)	:	(a) East/North side –1 in 30 (b) West/South side –1 in 30
23.	Road alignment (straight/curve)	:	(a) East/North side – Straight (b) West/South side - Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Winch Operated Lifting barrier
26.	Length of check Rail	:	9.5 MTRS.
27.	Road surface in between LC gates.	:	CC BLOCK
28.	Length of Rumble strip/speed breakers.	:	5.5 MTRS
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Available.
31.	TVU	:	5496 on 10/2024
32.	Census next due on	:	10/2027
33.	Demarcation for placement of detonators.	:	Provided.
34.	No. of Gatekeepers working	:	02 (12 Hours shift)
35.	Nearest Railway Medical Assistance	:	TIG
36.	Nearest Private Medical Assistance available (if any)	:	NORLA ROAD
37.	List of equipment available Yes / No.	:	YES

4.2 EQUIPMENTS TO BE AVAILABLE AT THE GATE:

ITEMS	QUANTITY/NUMBERS
1. LED based flashing tri colour hand signal lamp	3
2. Hand signal Flag Green	1 mounted on sticks
3. Hand Signal Flag Red.	3 mounted on sticks
4. Banner Flag Red	3
5. Posts for exhibiting red banner flag	2
6. Spare chains with padlocks	2 with stop mark
7. Detonators	10 in tin case
8. Gate Lamps	2
9. Tommy Bar	1
10. Mortar Pan	1
11. Spade/Fowrah	1
12. Rammer	1 (in case of asphalted road this may not be provided)
13. Pick Axe	1 (in case of asphalted road this may not be provided)
14. Tin case for flags	1
15. Water pot/Bucket	1
16. Canister for Muster Roll	1
17. Set of spare spectacles of Gatekeeper wearing glasses.	1
20. Board demarcating protection of level crossing Gate diagram in case of obstruction on Gate	1
19. Basket	1
20. Whistle	1
21. Wall clock	1
22. Small size chains with padlocks to be used in case of failure of boom lock.	2

4.3 THE GATEKEEPER SHALL BE PROVIDED WITH FOLLOWING REGISTERS:

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

4.4 DUTIES OF GATEKEEPER:

1. ALERTNESS:

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

2. POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATEKEEPER:

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

- x) Gatekeeper shall ensure that he is having competency certificate in his possession while on duty.
- xi) Gatekeeper shall work the gate as per gate working instructions and remain well conversant with these instructions.
- xii) Gatekeeper shall ensure that equipments supplied at the gate is in good order and ready for immediate use.
- xiii) Gatekeeper shall see that the channel for the flange of the wheel is kept clear.
- xiv) Gatekeeper must keep the road surface well-watered and rammed in case of non-metalled roads.
- xv) Gatekeeper must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvi) Gatekeeper shall prevent trespass passing by persons or cattle to the maximum extent.
- xvii) Gatekeeper on electrified section shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the Level crossing gate.
- xviii) Before opening the gate, he shall ensure that the train has passed completely over the level crossing by observing the last vehicle indicator of the train

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

- ii) Thereafter, if he is unable to remove the obstruction, Gate Keeper shall immediately inform the Station Master on duty by telephone, regarding the defects/obstructions at the gate, under exchange of private number.
- iii) If there is no response from the Station Master after two or three attempts he shall first protect the gate and then inform on phone.

THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER: -

(A) ON ELECTRIFIED SECTION:

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

(B) PROTECTION ON DOUBLE LINE:-

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

(C) PROTECTION ON SINGLE LINE SECTION:

- i) If the line is obstructed the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away from the direction on which train is expected to arrives first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
- iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed on the other side, 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 gatekeeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(D) ON MULTIPLE LINE SECTION (THIRD LINE):

- i) If all lines are obstructed, the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away (in the direction from which train comes in UP and DN line and in both direction for third line) on posts duly provided for the purpose. He shall first protect the line on which train is expected to arrives first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
- iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.

- vii) In case the gatekeeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(E) OTHER ACTIONS TO BE TAKEN BY GATEKEEPER:

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

4.5 ENGINEERING ITEMS

i) VISIBILITY

DIRECTION	SIDE	VISIBILITY DISTANCE
UP	RIGHT	1000
	LEFT	800
DN	RIGHT	800
	LEFT	1000
3 rd LINE	RIGHT	800
	LEFT	1000

- ii) Speed Breakers:- Speed Breakers of approved Design are provided on either side of the Level Crossing.
- iii) Periodical Census of traffic has been taken and the recent TVU is 5496 on 10/2024.

4.6 SPECIAL INSTRUCTIONS-

1. MODE OF OPERATION:-

This is a Manned & Non-interlocked Engineering L.C. Gate situated at Km 241/7-9(UP) KM 241/8-10(DN) 241/8A-10A(3rd) in between NRLR-LJR Stations. This gate is provided with winch operated coupled lifting barriers and the gate is closed/opened by the gateman manually by winch operation. Telephone communication is provided between the L C. gate lodge with SM office of NRLR station. The level crossing gate is normally kept closed and locked against road traffic. The Station Master/ NRLR shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gatekeeper supported by exchange of private number. When the gateman desires to open the gate for passage of road

traffic he should ensure that no PN has been exchanged with the Station Master/ NRLR for the passage of train or the whole of the train with last vehicle indicator has passed over the level crossing gate for which the gateman has exchanged private number with the SM/NRLR. Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate.

2. EXCHANGE OF PRIVATE NUMBERS:

- (i) The normal position of level crossing gate being "Closed to Road Traffic" it should always be in closed condition against road traffic, except when, it is opened for passage of road traffic over the level crossing, subject to conditions prescribed below.
- (ii) The Station Master / NRLR before permitting each train to enter into the block section, shall ask Gateman on the telephone by giving a Private Number whether, gate is closed against road traffic for the passage of train. The **Gatekeeper** only after ensuring that the gate is actually closed and locked against road traffic shall give a Private Number to the Station Master / NRLR in assurance of gate being closed and locked against road traffic.
- (iii) The Station Master / NRLR shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gateman supported by exchange of private number.
- (iv) When the **Gatekeeper** desires to open the gate for passage of road traffic he should ensure that:
 - (a) He has not exchanged any private number with the SM / NRLR as per (ii) above.
 - (b) If he has exchanged private number with the Station Master / NRLR, the whole of the train with last vehicle indicator has passed over the level crossing gate and Station Master / NRLR has not exchanged private number with him for any other movement of traffic. Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate. Then he shall open the gate for passing the road traffic, keeping a red flag / red hand signal lamp ready in his hand to stop approaching train if any.
- (v) In case the **Gatekeeper** is not responding on the telephone or in case the telephone becomes defective or private number is not received from the Gateman, the Station Master/ NRLR shall adhere to the procedure prescribed in SR 16.03.04.
- (vi) In the event of failure of telephone, if the gate is required to be opened for the passage of road traffic, the gateman shall look out in both directions before opening the gate to ensure that no train is approaching from either end. He shall then plant a banner flag during day and a hand signal lamp with the red light during night, 5 meters away from the gate on the track on either side. He

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

4.7 FAILURE OF TELEPHONIC COMMUNICATION:

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

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

4.8 FAILURE OF LIFTING BARRIERS OF GATE:

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

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

4.9 OBSTRUCTION AT THE GATE:

- i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- ii) Immediately after this, the gatekeeper shall advise the Station Master/NRLR on duty, regarding the defects/obstruction at the gate, under exchange of private number.
- iii) Station Master/ NRLR 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/ NRLR after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gatekeeper under item No.4.4(5).
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the Station Master/ NRLR who shall not start the trains unless he has been assured by the gatekeeper that the road vehicle or the lifting barriers are not fouling the track.
- viii) The Station Master/ NRLR shall also inform the Station Master/LJR at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.
- ix) After the track has been cleared of all obstructions the gatekeeper shall inform the Station Master/ NRLR accordingly, under exchange of private number.
- x) Gatekeeper shall secure the gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the gate is not obstructed.
- xi) Station Master/ NRLR shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.

4.10 OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

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

4.11 ACCIDENTAL ROLLING DOWN OF TRAINS:

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

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

CERTIFICATE: -

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

5.0 GATE WORKING INSTRUCTIONS FOR 'C' CLASS ENGG. INTERLOCKED LEVEL CROSSING GATE NO.RV-201 AT KM 241/33-242/1(UP), KM 241/34-242/2 (DN), KM 241/34A-242/2A(3RD) IN BETWEEN NRLR-LJR STATIONS.

5.1 GENERAL INSTRUCTIONS-

5.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of level crossing gate	:	RV-201
2.	Engineering or Traffic Gate	:	Engineering 'C' class.
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)
4.	Location at KM	:	241/33-242/1 (UP), 241/34-242/2 (DN) 241/34A-242/2A (3 rd Line)
5.	At station	:	----
6.	In between station	:	NRLR-LJR
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Multiple line
9.	Normal position	:	Open to road traffic
10.	Interlocked/Non-interlocked	:	Interlocked
11.	Means of interlocking	:	Gate Panel interlocking
12.	Provision of gate Signal at Kms	:	(a) UP Gate Signal: KM; 241/25-27 (b) DN gate signal:KM;242/8-10 (c) Up gate signal:KM;241/26A28A (3 rd Line) (d) DN Gate signal:KM;242/8A-10A (3 rd Line)
13.	Signaling arrangement	:	UP & DN gate stop, Inner distant and distant signals on multiple lines
14.	Means of communications /Telephone with or without Voice logger	:	Voice logger telephone with gate from the SM Office/NRLR.
15.	Width of Level Crossing Gate	:	5.50 MTRS
16.	Type of Road (NH/SH/Others)	:	Others(Village)
17.	Name of Road	:	Village Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	KCH
20.	Width of the Road	:	5.50 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	Nil
22.	Road Gradient (if any)	:	(a) East/North side – 1 in 30 (b) West/South side – 1 in 30
23.	Road alignment (straight/curve)	:	(a) East/North side – Straight (b) West/South side – Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Electrically Operated Lifting barrier
26.	Length of check Rail	:	9.75 MTRS.
27.	Road surface in between LC gates.	:	CC Block
28.	Length of Rumble strip/speed breakers.	:	5.5 MTRS
29.	Road Signs	:	Available
30.	Speed breakers indication board	:	Provided.
31.	TVU	:	9960 on 10/2024
32.	Census next due on	:	10/2027
33.	Demarcation for placement of detonators.	:	Displayed
34.	No. of Gatekeepers working	:	02 (12 Hours shift)
35.	Nearest Railway Medical Assistance	:	Titlagarh

36.	Nearest Private Medical Assistance available (if any)	:	NRLR
37.	List of equipment available Yes / No.	:	YES

5.2 EQUIPMENTS TO BE AVAILABLE AT THE GATE:

ITEMS	QUANTITY/NUMBERS
1. LED based flashing tri colour hand signal lamp	3
2. Hand signal Flag Green	1 mounted on sticks
3. Hand Signal Flag Red.	3
4. Banner Flag Red	3
5. Posts for exhibiting red banner flag	2
6. Spare chains with padlocks	2 with stop mark
7. Detonators	10 in tin case
8. Gate Lamps	2
9. Tommy Bar	1
10. Mortar Pan	1
11. Spade/Fowrah	1
12. Rammer	1 (in case of asphalted road this may not be provided)
13. Pick Axe	1 (in case of asphalted road this may not be provided)
14. Tin case for flags	1
15. Water pot/Bucket	1
16. Canister for Muster Roll	1
17. Set of spare spectacles of Gatekeeper wearing glasses.	1
21. Board demarcating protection of level crossing Gate diagram in case of obstruction on Gate	1
19. Basket	1
20. Whistle	1
21. Wall clock	1
22. Small size chains with padlocks to be used in case of failure of boom lock.	2

5.3 THE GATEKEEPER SHALL BE PROVIDED WITH FOLLOWING REGISTERS:-

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

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

5.4 DUTIES OF GATEKEEPER:

1. ALERTNESS:

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

2. POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATEKEEPER:

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

- xiv) Gatekeeper must keep the road surface well-watered and rammed in case of non-metalled roads.
- xv) Gatekeeper must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvi) Gatekeeper shall prevent tress passing by persons or cattle to the maximum extent.
- xvii) Gatekeeper on electrified section shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the Level crossing gate.
- xviii) Before opening the gate, he shall ensure that the train has passed complete over the level crossing by observing the last vehicle indicator of the train.
- xix) In the event of gate signal becoming defective the gatekeeper shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER: -

(A) ON ELECTRIFIED SECTION:

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

(B) PROTECTION ON DOUBLE LINE:-

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

(C) PROTECTION ON SINGLE LINE SECTION:

- i) If the line is obstructed the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away from the direction on which train is expected to arrives first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
- iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed on the other side, 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 gatekeeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(D) ON MULTIPLE LINE SECTION (THIRD LINE):

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

(E) OTHER ACTIONS TO BE TAKEN BY GATEKEEPER:

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

5.5 ENGINEERING ITEMS

i) VISIBILITY

DIRECTION	SIDE	VISIBILITY DISTANCE
UP	RIGHT	400
	LEFT	200
DN	RIGHT	600
	LEFT	500
3 rd LINE	RIGHT	600
	LEFT	500

(ii) Speed Breakers:- Speed Breakers of approved Design are provided on either side of the Level Crossing.

(ii) Periodical Census of traffic has been taken and the recent TVU is 9960 as on 10/2021.

5.6 SPECIAL INSTRUCTIONS-

1. MODE OF OPERATION:-

This is an interlocked L.C. Gate situated at KM 241/33-242/1 (UP LINE) KM 241/34-242/2 (DN LINE) km.24/34A-242/2A (3rd Line) in between Norla Road and Lanjigarh Road stations. Telephone communication of Voice logger is provided between the L C. gate lodge and SM office of NRLR Station. The level crossing gate is of lifting barrier type and motor operated by means of motor from panel provided at the gate lodge. The normal position of the gate is open to road traffic. The key "A" of the LC normally remains locked in the EKT-1 when the gate is in open condition. When it is necessary to close the gate, for taking off gate signals for the passing of trains, the SM on duty shall inform the gate man to close and lock the gate and take off concerned signals. The gate man on duty shall close the barriers of the LC gate by operating the RED push button provided on the panel. Gatekeeper will keep the red push button till gate is closed & locked against road traffic and the red indication appears on the panel. Then key 'A' is to be extracted from EKT-1 and inserted in EKT-2 and turned. Key IN contact of EKT-2 along with reversal of concerned gate signal switches to take off gate signals i.e (a) Switch GS-1 releases UP Gate signal No.GS 1 of UP line. (b) Switch GS-2 releases DN Gate signal No.GS 2 of DN line(c) Switch GS-3 releases UP Gate signal No.GS-3 of 3rd line(d) Switch GS-4 releases DN Gate signal No.GS-4 of 3rd line.

After passage of the Train, the Gatekeeper extracts the control key 'A' from the EKT-2.whichcan be released after passing of trains through sequential occupation and clearance of concerned track circuits and insert in EKT-1..The Gatekeeper will get a gate free indication on panel and subsequently the gate can be opened by pressing the GREEN push button till gate is fully opened. The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01 (a). During Non-Interlocking working the Gateman shall be informed and the Train shall be passed in terms of SR 3.73 and 3.70.03 after ensuring correct closing and locking of L.C Gate. During this period the L.C Gate shall be opened only when necessary and safe to do so.

In case of Emergency/ failure in extracting key-A from EKT, Gatekeeper will inform SM/NRLR under exchanging of private number. Then one emergency key 'B' Electro mechanically free provided in a red sealed glass box and the barriers are to be opened by manual operation of lifting barriers by crank

handling. Concerned signals will be put back to "ON" position when emergency key "B" is extracted from EKT-3. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gateman.

Dead approach Locking:

Dead approach locking of 60 seconds with back locking is provided.

Description of the Panel switches on the operating Panel:

- a) GS-1 –Control switch for operating UP Gate Stop Signal.
- b) GS-2 –Control switch for operating DN Gate Stop Signal.
- c) GS-3 –Control switch for operating UP Gate Stop Signal of 3rd Line.
- d) GS-4 –Control switch for operating DN Gate Stop Signal of 3rd Line.

During failure of Lifting barriers, sliding boom as an alternative arrangement has been provided for running of trains on signal. The following procedure shall be adopted during failure of lifting barriers.

- a) Key 'S' when extracted from lock free EKT-5 makes road signal danger & actuates road hooter key 'S' unlocks the sliding barrier-1.
- b) Sliding barrier-1 to be rolled across the road upto lock post key (chained with barrier) releases the lock plunger & key 'SB1'. Key 'SB1' when extracted lock the sliding barrier-1.
- c) Similarly, after unlocking the pad lock sliding barrier-2 to be rolled across the road upto lock post, key (Chained with barrier) along with key 'SB1' inserted releases the lock plunger and key 'SB2'. Key 'SB2' when extracted lock the sliding barrier-2 & key 'SB1'.
- d) Finally released key 'SB2' is to be transmitted electrically through EKT-4.
- e) UP & DN signals for UP & DN main line can be cleared by reversing switch 'GS1' & 'GS2' respectively.
- f) UP & DN signals for third line can be cleared by reversing switch 'GS3' and 'GS4' respectively.

2. INTIMATION TO GATEKEEPER

- i) Immediately after departure of the train SS/SM shall advise the **Gatekeeper** through telephone, the number, description, direction and expected time of passage of the train at the gate.
- ii) The **Gatekeeper** shall immediately close and lock the gate and takeoff the concerned signals.
- iii) If the actual running time of the train from either end of the section is less than 10 minutes SS/SM will convey this advice to the gatekeeper before obtaining /granting line clear.
- iv) It should be the duty of the **Gatekeeper** to ensure that the gate is closed in time so that there is no detention to the train and excessive detention to train traffic.

5.7 FAILURE OF TELEPHONIC COMMUNICATION:

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

- i) Station master/NRLR shall issue caution order to the Loco Pilot of the departing train.
- ii) In the caution order, it shall advice the Loco Pilot to whistle continuously and approach the gate cautiously.
- iii) The Loco Pilot shall be instructed to pass the gate cautiously, on being hand signalled by the gatekeeper. If hand signal is not seen, the Loco Pilot should be prepared to

stop short of the gate and depute his Assistant Loco Pilot to see the condition of the gate. If gate is closed, ALP will give all right signal and if gate is not closed, the ALP must close the gate and then give all right signal. In the absence of the ALP, the LP may take the assistance of TMR.

- iv) In case of an approaching train, the SM shall advise the SM at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- v) The SM at the dispatching end shall then issue a caution order to the LP before dispatching a train in the block section from his end.
- vi) The SM shall advise the GK through gang man/patrol man or the LP of the first train that the telephone has become defective.
- vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- viii) Normal working will be resumed only after S&T staff rectifies the telephone and issue reconnection/fit memo for the same.

5.8 FAILURE OF LIFTING BARRIERS:-

- i) When the gate cannot be closed due to failure of lifting barriers, the Gate Keeper will immediately inform, the Station Master on duty/NRLR under exchange private number, and ensure the lifting barriers of gate do not foul the track. Then he shall resort to operate the sliding barrier to close against the road traffic. If both the lifting barrier and sliding barrier became defective, then he shall take the following action.
- ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- iii) Gate Keeper shall secure the gate against road traffic by means of safety chains and padlocks.
- iv) After securing the gate against road traffic, Gate Keeper shall show green hand signal flag by day and green light by night to the Loco Pilot of the approaching train.
- v) Station Master on duty/ NRLR shall issue a caution order to the Loco Pilot of a departing train.
- vi) He shall also advise the station Master/LJR at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train into the block section from his end.
- vii) Station Master/ NRLR will advise maintenance staff responsible for maintenance of lifting barriers to repair the defect at the earliest.
- viii) Normal working will be resumed only after maintenance staff repair the barrier and issue reconnection/fit memo for the same.

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

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

- i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gatekeeper must immediately inform the Station Master/KBJ on duty on telephone, under exchange of private number.
- ii) For emergency opening of the gate, he will extract key-B from EKT kept in the red sealed glass box which is mechanically free & electrically proved. Concerned signals will be put back to "ON" position when emergency key is extracted. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gatekeeper.
- iii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/dispatch of trains as prescribed for non-interlocked gates should be adopted.

- iv) Station Master on duty/ NRLR shall issue caution order to the Loco Pilot of a departing train.
- v) He shall also advise the Station Master/LJR at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train into the block section his end.
- vi) Station Master/ NRLR shall advise S&T staff responsible for maintenance the key transmitter to repair the same at the earliest.
- vii) Normal working will be resumed only after S&T staff repairs the key transmitter and issue reconnection/fit memo for the same.

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

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

5.11 DEFECTIVE GATE SIGNAL:

- i) The gatekeeper shall treat the gate signal as defective and must not lower them under following circumstances:
 - a) If gate signals can be taken 'OFF' without closing the gate, or
 - b) The key can be extracted from the operating winch when the gate is in open condition, or
 - c) The key can be extracted from the gate lever when the gate is in open condition.
- ii) If the Gate or the Gate Signal or Distant Signal becomes defective in 'OFF' position, the gatekeeper will make all efforts to put it at 'ON' position even by cutting signal wire/power, if necessary.
- iii) The gatekeeper will immediately advise the Station Master on duty/ NRLR, under exchange of private number, regarding defective gate signals.
- iv) Thereafter, the gate must be treated as non-interlocked and procedure for reception/dispatch as prescribed for non-interlocked gates should be adopted.
- v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- vi) Station Master on duty/ NRLR will issue a caution order to the Loco Pilot of departing train.

- vii) He shall also advise the Station Master/LJR under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching train in the block section from his end.
- viii) Station Master/ NRLR shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- ix) Normal working will be resumed only after S&T staff rectify the defective gate signal and issue reconnection/fit memo for the same.

5.12 OBSTRUCTION AT THE GATE:

- i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately normalize GS switch to put back concerned signals and then fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- ii) Immediately after this, the gatekeeper shall inform the Station Master / NRLR on duty, regarding the defects/obstruction at the gate, under exchange of private number.
- iii) Station Master / NRLR 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/ NRLR after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of Gatekeeper under item No.5.4. (5).
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the station Master/ NRLR who shall not start the trains unless he has been assured by the Gatekeeper that the road vehicle or the lifting barriers are not fouling the track.
- viii) The Station Master/ NRLR shall also inform the station Master /LJR at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.
- ix) After the track has been cleared of all obstructions the gatekeeper shall inform the Station Master/ NRLR accordingly, under exchange of private number.
- x) Gatekeeper shall secure the gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the gate is not obstructed.
- xi) Station Master/ NRLR shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.
- xiii) Station Master/ NRLR shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the Gatekeeper, if the gate is broken, but is clear of any obstruction.

5.13 Obstruction on the Track near Level Crossing Gate:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gatekeeper, the gatekeeper and Station Master will adopt the procedure given under item No.5.12 above. If the obstruction fouls the level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstructions.

5.14 ACCIDENTAL ROLLING DOWN OF TRAINS:

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

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

CERTIFICATE: -

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

APPENDIX 'B' TO STATION WORKING RULES OF NORLA ROAD STATION

(Detail description of signaling and interlocking installations, instructions for working them normally and in emergencies etc. including power supply arrangements).

1. **BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:**

NORLA ROAD is a Class 'B' station provided with Standard-III (R) Interlocking. The station is provided with Route setting type Electronic Interlocking between points, signals, track sections and other signaling gears. The station is equipped with Multiple Aspect Color Light Signaling. All points and signals are power operated through a central **Visual Display unit (VDU)** installed in the SM's Office.

2. **DESCRIPTION OF OPERATOR CONSOLE CUM VISUAL DISPLAY UNIT (VDU):**

The Operator Console cum Visual Display Unit (VDU) in dual configuration is provided for operation of Signals, points, Crank handles and controls etc. A mimic yard diagram based on SI plan No. SI/22219 shall be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the station mimic diagram of VDU will be dynamically updated.

3. **SYSTEM OVERVIEW**

The PC-based (**operator VDU**) for the operation of Signals, Points, Crank Handles and Siding Controls, etc. The SM of a station (*hereinafter referred as operator*) required to be familiar on the specific station's SWR (station working rules).

Operator VDUs consist of CPU with a color monitor, keyboard and pointing device (mouse). Through communication media the exchange of control and indication messages takes place with operator VDU. The Software is installed to display the Station Yard Mimic diagram on the operator VDU and it allows access to all functions by selecting menus with a click of mouse on the corresponding function icon. By selecting the menu, the function (Signal clear and cancellation, Route release, Point operation, Gate release etc.,) can be executed.

The operator VDU is used for controlling and monitoring the station. However, indications on the Station yard mimic diagram of operator VDU will be dynamically updated.

3.1. **DUAL VDUs – MODE OF SELECTION:**

The privilege has been given to the operator for controlling the station through VDU-1 or VDU-2. With Dual VDU concept, we can control either from A-VDU or B-VDU. VDU Changeover between two System can be done by the following ways.

1. When the A-VDU is active ONLINE, the SMKEY Status of B-VDU will be in KEYOUT Condition with Red Color.
2. Whenever SM wants to change the control from A-VDU to B-VDU, he shall apply SMKEY IN at B-VDU. During this time A-VDU SMKEY will get KEYOUT and the Color will turn to Red. Vice-versa, the same operation will be applicable to change the Control from B-VDU to A-VDU.
3. If ON-LINE VDU is failed, SM shall apply SMKEY IN at Standby VDU. Then the Standby VDU will come to ON-LINE.
The operator VDU is having controls to operate the field gears through the Mimic diagram. A Mimic panel diagram displayed on the operator VDU is an exact replica of yard that suits SI plan.

4. CONTROL(S) & INDICATION(S):

4.1. 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.

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1.	PC KEY SM	Green Colour 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.	For each operation concerned counter shall register one count higher.
3.	Emergency Point operation key	Green light when key is 'IN'. Yellow light indication appears showing request for Emergency point operation is acknowledged.	Ensures emergency point operation by authorized person	Protected by Pass word. For each operation concerned counter shall register one count higher.
4.	Point failure Ack. button	Red	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 if

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
				failure persists.
5	Signal failure Ack. button	Red	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.
6	CH-1, CH-2, CH-3, CH-4, -----, buttons	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.	--
7	'DN Train Entering Section' muting button	Yellow - acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	--
8	'UP Train Entering Section' muting button	Yellow - acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	--
9	UP Train arrival Ack button	Yellow - indicates complete train arrived.	On getting indication SM shall left click on the button icon which shall mute the arrival buzzer coming from TLBI.	After complete arrival of train this will be activated
10	DN Train arrival Ack button	Yellow - indicates complete train arrived.	On getting indication SM shall left click on the button icon which shall mute the arrival buzzer coming from TLBI.	After complete arrival of train this will be activated
11	UP Block release button	Yellow - Prepared for Block release.	On getting indication SM shall left click on the button icon which shall release Block Handle.	--
10	DN Block release button	Yellow - Prepared for Block release.	On getting indication SM shall left click on the button icon which shall release Block Handle.	--
11	Line Block button	Magenta colour when blocked	SS/Dy. SS 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, SS/Dy. SS has to select the required menu.	When line block is selected the concerned button on the particular line turns to RED.

4.2. PC SM KEY:

To prevent the unauthorized operation by other than on-duty ASM/SM this facility is provided on VDU. On duty SM/ASM need to track the pointer to the “PC SMKEY” icon and by clicking the icon a drop down menu having the **KEY IN** & **KEY OUT** will appear.



By clicking the **KEY IN** menu using the left button of the mouse, a Password window will appear. ASM/SM need to enter the password and press the OK Button provided on the Password window. User Name and password for this station is ECOR and NRLR respectively.



Then PC SMKEY icon will turn to Green color. This will enable all the controls in VDU.



VDU Control Changeover Operation:

With Dual VDU concept, we can control either from A-VDU or B-VDU. VDU Changeover between Two System can be done by the following ways

1. When the A-VDU is active ONLINE, the SMKEY Status of B-VDU will be in KEYOUT Condition with Red Color
2. Whenever SM wants to change the control from A-VDU to B-VDU, he shall apply SMKEY IN at B-VDU. During this time A-VDU SMKEY will get KEYOUT and the Color will turn to Red. Vice-versa, the same operation will be applicable to change the Control from B-VDU to A-VDU.
3. If ONLINE VDU is failed, SM shall apply SMKEY IN at Standby VDU. Then the Standby VDU will come to ONLINE.

4.3. **ELECTRONIC INTERLOCKING (E.I) SYSTEM INDICATIONS:**

4.3.1. **K5BMC System Failure Indications:**

In PC there are two system failure indications such as ET FL & EI FL. During the failure a Red color indication will start flashing as shown in the below figure.

a) **ET LFL (Electronic Terminal Low Failure):**

When any one of the ETPIO2 board fails, a red colour flashing indication appears on ET LFL.

b) **ET HFL (Electronic Terminal High Failure):**

Similarly when all the ETPIO2 boards of the K5BMC system fail, it will be shown by the red flashing indication on ET HFL.

c) **EI LFL (EI System Low Failure):**

ET LINE2B status for two systems, Logic system Power Supply status, I/O Board & LINE2B Board Power Supply, OPC Converter Status & OPC Communication status for both the systems is monitored through EI LFL.

When any one of the above functions fail list will be displayed in EI LFL by a flashing red indication.

d) **EI HFL (EI System High Failure):**

ET LINE2B status for two systems, I/O Board & LINE2B Board Power Supply, OPC Communication status for both the systems & MTC Commutation status are monitored through EI HFL.

When any one of the above function fails it will be displayed in EI HFL by a flashing red indication.

OPC Communication Failure & ET LINE2B status failure indication will be displayed in EI HFL only when the healthy status is not available from both systems.





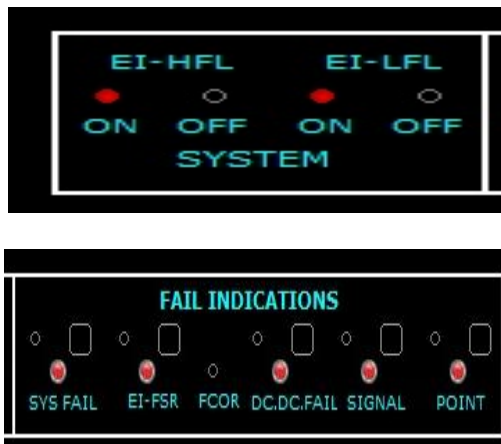
e) System failure Acknowledgement:

In the PC there is a Red colour button for acknowledging the system failure. Once the button is acknowledged, the buzzer will go off. The indication remains till the problem is rectified.



f) K5BMC System Healthy Indications:

When all the functions of K5BMC system is working properly without any failure, the System Healthy indication will be displayed by a steady green indication as shown in the below figure.

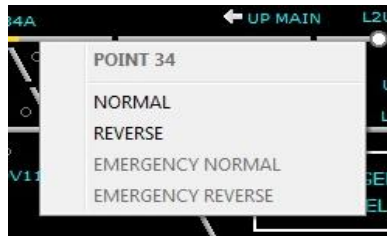


4.4. VDU ACTIVE INDICATIONS:

Whenever the VDU is in active condition a RBG sequence will be running in the top right corner of the screen. That is in a flashing sequence in the screen.

4.5. OPERATION AND INDICATION OF POINT:

To Operate the Point the SM/ASM needs to track the mouse pointer to concerned Point Button on the VDU, after clicking by the left button of the mouse a popup menu will appear as below:



4.5.1. REVERSE TO NORMAL OPERATION:

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

4.5.2. NORMAL TO REVERSE OPERATION:

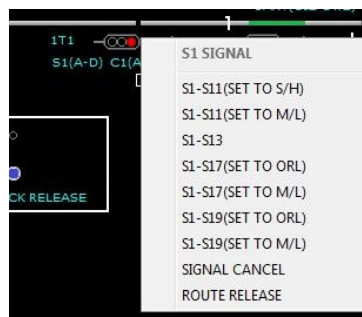
Track the pointer to **REVERSE** menu and click, a Reverse flashing indication will appear, the indication will be steady after the point is set to Reverse.

4.5.3. POINT INDICATIONS:

When the point is free a steady yellow strip of light will appear either in the normal position of point zone or in the reverse position of point zone depending up on the position of point, indicating that the point is set. When the point is operated from the normal to reverse the strip of light in the normal position disappears and starts flashing in the reverse position and becomes steady when the point is set and detected. Similarly when the point is operated from the reverse to normal the strip of light in the reverse position disappears and starts flashing in the normal position and becomes steady when the point is set and detected. When the point is engaged in a route, a yellow indication will appear near the point and red indication appears in the point lock indication showing that the point is locked and cannot be operated.

4.6. SIGNAL OPERATION:

To Take-Off a Signal with the desired route the SM/ASM needs to track the mouse pointer over the concerned Signal on the VDU, after clicking by the left button on the mouse a popup menu will appear as below:



4.6.1. SETTING A ROUTE:

To set a route of a signal, click on a possible route of the signal, after doing, so a RED colour route initiation indication will be flashing and all the Normal/Reverse set indication of the Points in the route will start flashing if it is not available in required position. After setting of points in the route, overlap and isolation in required condition flashing indication will become steady and a complete yellow 'Route set' indication will appear over the route right from replacement track of the signal to the last track of overlap section of the route. Also the point

lock indication will appear through Red indication near the point. Finally a route locked yellow steady indication will appear immediate to rear of the signal. Now the signal will be taken-off. The yellow route set indication will turn to red when the train occupies the concerned track section.



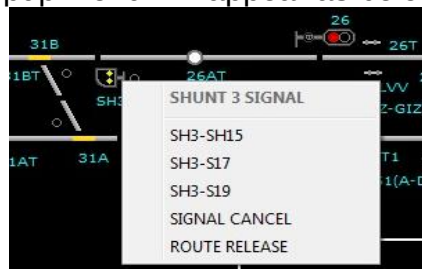
Conditions for setting a route:

The following condition to be ensured before setting the route by the SM/ ASM.

1. All the Crank handles of the required route related points to be in Key-IN condition.
2. If any Level Crossing gates are falling under the route that should be closed and locked (KEY IN).

4.6.2. SHUNT SIGNAL OPERATION:

For setting and cancelling the signal route for the shunt signal the same procedure shall be followed as explained in section for Main signal operation. To Take-Off a Shunt Signal with the desired route the SM/ASM needs to track the mouse pointer over the concerned shunt Signal on the VDU, after clicking the left button on the mouse a popup menu will appear as below:



Then click the button of mouse on the required route on pop-up menu. After doing so, desired route will be initiated and the Shunt signal will be taken off.

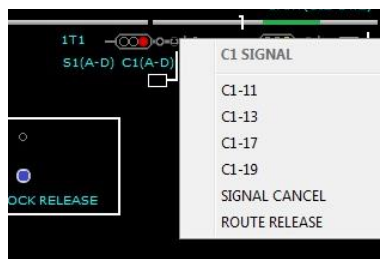


4.6.3. CALLING ON SIGNAL OPERATION:

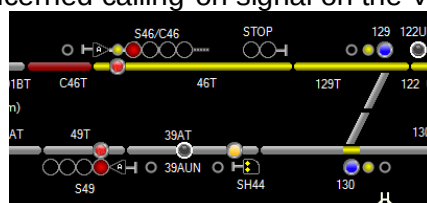
Calling-on signal route set operation is similar to the same procedure as mentioned for the main signal except that to take off Calling- signal overlap is not required. For calling-on Signal, route is set after a train occupies the approach track section in immediate rear of the stop signal. The calling on Signal is cleared

after a lapse of 60 Seconds for Calling-on bellow Home signal and Zero time delay for Calling -on below starter signals.

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal/Starter signals where provided, occupying the approach track section as the case may be in rear of the signal. When a train occupies the track section 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. Left click on the calling-on Signal which will appear a pop-up menu as follows.



Then the SM must drag the pointer and click over the required route as a result of which the calling-on signal will blink for 60 seconds in case of Calling-on below Home signals. For all home signals the time delay is 60 seconds, the Calling-on signal clears i.e. a yellow light glows at the concerned calling-on signal on the VDU.



This action will be recorded in a respective counter of the counter box provided on SM's table. Every such operation shall be recorded by the SS/SM on duty along with the reasons to do so. The calling-on signal route can be released after complete arrival of the train by Signal cancellation only.

NOTE:

- i) Before taking "OFF" Calling-on signal during failure of track circuit, the clearance of track over which the train is intended to be received must be verified physically.
- ii) SM on duty to ensure that no through signals are given while receiving a train on Calling-on signal.

4.7. 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 Release control of the Crank Handle, click on the crank handle control button provided like the following button on the VDU.



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 /ASM has to transmit the control by clicking **TRANSMIT** on menu of the Crank Handle Button. 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. This action will be recorded in a respective counter of the counter box provided on SM's table. 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 Crank Handle operation along with the latest counter number in a register.

When the Manual point operation is completed, after putting the KEY back in the EKT, corresponding Crank Handle KEY IN flashing indication will appear on the VDU. Now the operator has to Release the control for the steady indication, for that click on the Crank Handle and select the **RECEIVE** in the menu appeared.

A Crank handle locked indication (Red) will appear, when the particular point is locked through the signal route set over it .

4.7 **OVERLAP TIME RELEASE:**

A separate indication 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.

5. **EMERGENCY OPERATIONS:**

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

5.1. **CANCELLING 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 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. Since all the Signals are having Dead approach, both the route locked indication near the signal start flashing. After the completion of 120 Seconds, route nomination and route locked flashing indication disappears and veeder counter provided for the route release will change to next higher digit. 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 a register.

5.2. **EMERGENCY POINT OPERATION:**

When the point zone track sections failed without any point lock condition through respective signal route(s), 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 obstruction.

Before doing the emergency operation, SM on duty shall make the Emergency Point Operation Key is to be 'KEY IN'. To 'KEY IN' the Emergency Point Operation key click on the SM's Emergency point operation key a pop-up menu will be appears as follows.



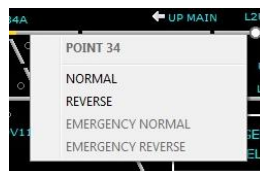
Click on the KEY IN in the menu appeared and shall provide User name and password for the same as follows.



The user name of this station is 'ECOR' and password of this station is NRLR. Then point operation can be done to either normal or reverse as per requirement.

5.2.1. **EMERGENCY NORMAL OPERATION:**

Track the pointer to the corresponding Point which is intended to operate and then click the mouse button. After doing so, a pop-up menu will appear as below.



Track the pointer to EMERGENCY NORMAL menu of the corresponding Point and click. After doing so point gets operated and Normal flashing indication will appear the indication will be steady after the point is set to Normal.

5.2.2. **EMERGENCY REVERSE OPERATION:**

Track the pointer to EMERGENCY REVERSE menu of the corresponding Point and click. After doing so point gets operated Reverse flashing indication will appear, the indication will be steady after the point is set to reverse.

After the Emergency point operation a specific veeder counter will change to its next higher digit and this number should be recorded in the register provided for this purpose by the SM/ASM on duty who shall record the details of the Emergency Point Operation along with the latest counter number in a register.

After the completion of the Emergency point operation, the Key to be 'KEY OUT'. Same procedure as mentioned for KEY IN shall be followed for KEY OUT. To 'KEY OUT' the Emergency Point Operation key right click on the SM's Emergency point operation key a pop-up menu will be appears as shown in the Para No.5.2 above. Click on the KEY OUT in the menu appeared and shall provide User name and password. The user name of this station is 'ECOR' and password of this station is NRLR.

Note: The Emergency Point Normal and Emergency Point Reverse options are normally in disabled mode. These are enabled only when the Emergency Key is in position.

5.3. **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 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 on '**TRANSMIT**' menu. After transmission the 'KEY LOCKED' (Red) indication will start to flash for 120 seconds & 'KEY IN' remains steady. After this 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 crank handle key in the RKT, flashing 'KEY IN' indication will appear on the VDU, now the SS/DY. SS on duty shall Release the control for the Steady indication by clicking '**RECEIVE**' menu.

This action will be recorded in a respective counter of the counter box provided
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 counter will increment the number for each and every such 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 number in a register.

5.3.1. **EMERGENCY CRANK HANDLE RELEASE DURING FAILURE OF BOTH THE VDUs (ACTIVE & STANDBY):**

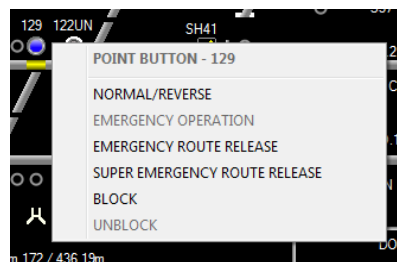
When both the VDUs (Active & Stand by) provided for operation of signals & points in EI station cease to work at the same time due to power failure or what so ever the reason, the SM on duty shall turn the key (ECH) to right provided in the key box fixed on the SM table simultaneously the VDU fail ack. Button is to be pressed. By resorting to this, timer is initiated and flashing indication will appear on the key box fixed on the SM table. Flashing indication will be steady after 120 seconds which results release all the crank handles at a time. The SM on duty can set the required point/points through crank handles manually by extracting the key/keys from EKTs provided in the location boxes.

In case complete EI System (both active & stand by) fails there is a provision that keys from all crank handle locations gets released automatically without any time delay and can be extracted for crank handling & setting of points for train operations.

CRANK HANDLE CONTROLS FOR EMERGENCY OPERATION OF POINTS			
S No	CRANK HANDLE	CONTROL POINTS	PROVIDED IN
1.	CH1	33A/B,	UP CH LOC-3 RPRD End
2.	CH2	41A/B, 42 A/B	UP CH LOC-2 RPRD End & DN CH.LOC-1 LJR End.
3.	CH3	35 A/B, 36 A/B	UP CH LOC-2 RPRD End & DN CH LOC-1 LJR End.
4.	CH4	34 A/B.	DN CH LOC-3 LJR End.
5.	CH5	37A/B, 38 A/B.	UP CH LOC-1 RPRD End, DN CH LOC-2 LJR End.

5.4. **BLOCK AND UNBLOCK OPERATION:**

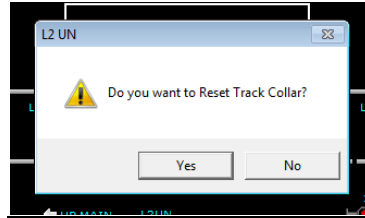
Block option is used to block the Signal **icon**, Point **icon** and Route **icon**. Block Operation prohibits the setting of routes, releasing the route, Operation of points by the user. A typical Block & Unblock menu is shown below.



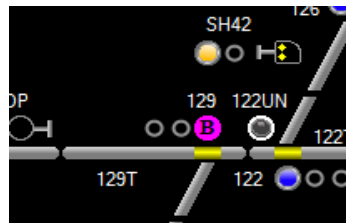
5.4.1. **BLOCK OPERATION:**

By placing the mouse pointer over any button and pressing the left mouse button, a popup menu with a list of available menu items will be displayed near the control symbol as shown above.

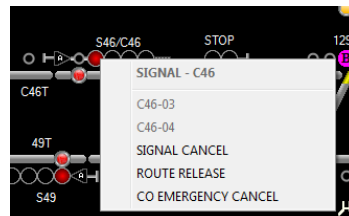
Select the "BLOCK" menu item from the list and press left mouse button or Enter key in the keyboard. A confirmation box appears as shown in below.



Now click YES option of the confirmation window and a Magenta Colour Block indication will be displayed as shown in below.

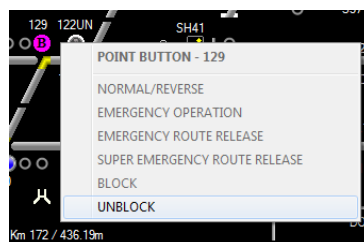


Once Block command is applied, all routes across the track in both directions are prohibited by disabling menu items of the respective signals as shown in below.

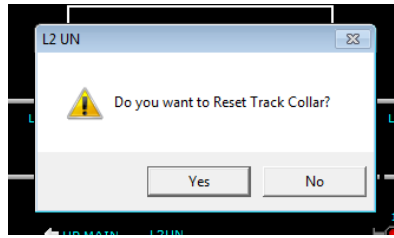


5.4.2. **UNBLOCK OPERATION:**

To unblock a button, place the mouse pointer over the blocked button and press the left mouse button. A popup menu with a list of available menu items will be displayed near to the control symbol as shown in below. Select the "UNBLOCK" menu item from the list and press the left mouse button or Enter key in the keyboard.



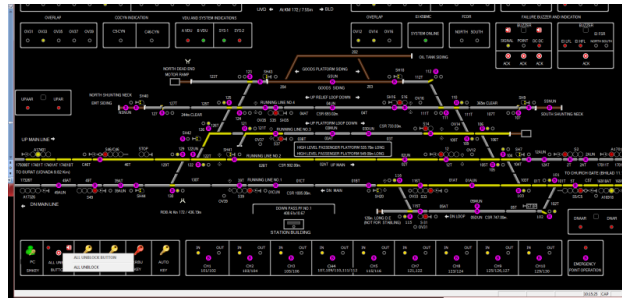
A confirmation message box as shown in below will be displayed to get the confirmation from the user. UNBLOCK command will be sent to EI system to unblock the button, when "Yes" buttons is clicked.



The Magenta Block indication will be removed after the button is unblocked by the EI system. If "No" is selected from the message box, then the unblocking will be cancelled. Once the button is unblocked, setting of all routes across the track is possible in both directions.

5.4.3. **ALL UNBLOCK OPERATION:**

This operation allows user to unblock all block buttons in track layout. When all buttons gets block, it displays as shown below. To unblock the buttons, user should login/key in first.



6. **DIGITAL AXLE COUNTER:**

High Availability Digital Axle Counters are provided as a Last Vehicle Checking Device (LVCD) for Both UP and DN block sections between RPRD-NRLR, NRLR-LJR stations and on single line block section between NRLR-RPRD, NRLR-LJR stations.

The position of the Block section whether cleared or occupied are reflected in the VDU provided in the Station Master's office which shows 'GREEN' when the Block Section is clear and 'RED' when occupied. Whenever a train enters into the Block Section, "Block

Section Clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears.

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

In case of failure of Digital Axle Counter, the SM on duty should resort to resetting of the same along with the SM on duty of adjacent station after confirming that the whole of the train sent by sending station has been arrived at the receiving station. The resetting of the LVCD shall be initiated as mentioned below at both the stations after exchanging the Private Number.

A Reset Box is provided on SM's table for each LVCD section to reset the Axle Counter in case of failure of LVCD. Reset Box gives the status of the block section i.e. Clear (GREEN), occupied (RED), preparatory reset (Miniature GREEN) and power on indications (WHITE). It also having the Reset Key, push button for resetting the LVCD and a counter is provided to record the operation.

A visual indication is provided in front of SM. On being conveyed by the indication that either of the Axle counters has failed, the SM on duty shall immediately inform the S&T staff for rectification.

6.1. RESETTING OPERATION FOR LVCD (DIGITAL AXLE COUNTER):

After complete arrival of train, if the LVCD of the section does not clear and Block section clear indication (Green) does not appear in the VDU, the receiving station SM shall apprise the sending station SM through telephone for resetting the Axle Counter giving the details of last train that has arrived complete at his station and the block section is clear.

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

Then the SM on duty shall adopt the following resetting procedure at both the sending and receiving stations individually.

- a) On being advised by SM of NRLR Station, SM of LJR/RPRD should perform the following step by step procedure from (b) to (i) for resetting the Digital Axle Counter.
- b) SM of NRLR Station and LJR/RPRD Station shall then Insert SM's reset key, and turn right.
- c) Press simultaneously both the Push button and the Reset Key which are provided on the Reset Box for at least 5 seconds continuously at NRLR and LJR/RPRD station.
- d) Release SM's Reset Key and Push button.
- e) Turn the SM's Reset Key to left and remove it.
- f) The system goes to preparatory reset state and preparatory reset miniature indication (Green) glows on the Reset box. The counter reading incremented after a gap of 5 seconds approximately.
- g) The counter reading should be recorded in the concerned register by SM on duty.

- h) One train is to be piloted out in the section to make the system normal.
- i) The SM on duty shall record it in the Train Signal Register indicating the resetting operations in detail i.e. train number, time, Private Number exchanged with SM of sending station and giving reasons for the resetting operation.
- j) If the axle counter works properly, then Block Section cleared indication 'Green' will appear on the Reset box and the concerned Block working will be normalized after arrival of train which is piloted out.
- k) If the LVCD section indication does not appear 'Green' and continues to show 'RED' indication, the concerned Block instrument shall be suspended and failure intimation is to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

6.2 MULTI SECTION DIGITAL AXLE COUNTER (MSDAC)

6.2.1 GENERAL:

Entire yard of Norla Road (NRLR) station from UP Home signal to Down Home signal including calling on tracks section on all the lines is provided with Dual MSDAC system in place of conventional DC track circuits to detect the presence of train. When any Track Section is occupied that particular Track Section will show '**RED**' indication on the operating VDU as well as on Reset box. However, MSDAC system will not detect any vehicle which is placed abruptly in between the MSDAC detection points. Dual or redundant MSDAC system has two independent parallel system viz. system-A & system-B working simultaneously to detect occupation/clearance of the Track Sections. In case of failure of any one of the system i.e., System 'A'/ System 'B' the other system shall take care of the concerned Track Section. This is to facilitate dealing of trains with signals during the failure of any one of the systems. Facility for MSDAC Reset operation, in case of failure of both the systems is provided on Reset Box at the SM's office.

6.2.2 DESCRIPTION OF THE MSDAC INDICATION CUM- RESETTNG FEATURES:-

(a) Features:

- 1) SM key module, which consists of
 - a) Reset Key.
 - b) Power ON indication(Yellow)

The Reset key acts as the common key for all the reset boxes of track sections used in the station yard. Additionally a Buzzer is provided to give audio indication for 3 sec that reset initiation in progress.

- 2) Reset Box.

Each track section is provided with a reset box to reset a particular section. The front panel of the Reset box consists of.

 - a) Push Switch in Red color.
 - b) Reset Counter
 - c) Preparatory Reset Indication –Green LED.
 - d) Line Verification indication - Yellow LED
 - e) Section clear/unoccupied indication- Green LED.

f) Section closed/occupied indication –Red LED.

(b) Communication: Magneto phone provided between SM Room and LV Boxes.

6.2.3 CUSTODY OF KEYS:

SM'S Key, Line Verification Keys and Line Verification Location Box Keys are provided for point zone and loop line tracks. These keys shall be kept locked in a separate box in the SM's office and shall be under personal custody of the SM on duty.

6.2.4 COUNTERS FOR RECORDING RESET OPERATIONS:

Each and every operation of the Reset operation through Reset Box is counted on Zone wise counter provided in the Reset Box for East/West zone and shall be recorded in the Counter Register before and after Resetting operation as per the following format :

S.No	Date	T i m e	Tr a c k s e c t i o n N o	Track section failed after the arrival/dep arture of Train No.	Cou n t e r r e a d i n g b e f o r e r e s e t t i n g	Cou n t e r r e a d i n g a f t e r r e s e t t i n g	Trai n N o. d e a l t a f t e r r e s e t t i n g	R e a s o n	Signatu re of Authori zed Person for Line Verifica tion	Sig natu re of SM on duty
1	2	3	4	5	6	7	8	9	10	11

6.2.5 RESETTING PROCEDURE OF MSDAC

MSDAC is provided with two types of resetting features corresponding to failures of system viz, 1. Auto Reset 2. Manual Reset

A. AUTO RESET:

The Auto Reset feature is provided for systems of all Track sections. Each track Section is provided with Dual detection system i.e., system-A and system-B which detects occupation/clearance of the Track Section independently. In case of failure of any one system of MSDAC, the status of the track section is verified by the other healthy system monitoring the section and shows clear indication in the Reset box in case the Track Section concerned is not occupied. In Dual detection system-A and system-B of MSDAC has internal system for Auto resetting. The

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be reset through Auto Reset feature from the working system. Only the SM on duty can receive or Dispatch trains on Signals.

B. MANUAL RESET :

In the event of failure of both System 'A' and System 'B' of any Track Section SM on duty shall initiate Manual Reset. Manual Reset is provided to all Track Sections as per the following details:

SL. NO.	LINE/SECTION	TYPE OF RESET	TO BE APPLIED BY	AXLE COUNTER STATUS
	(1)	(2)	(3)	(4)
1	Block Section/Auto/IB Section	Preparatory Reset	On Duty SM/SS at both end of Block Section	After operation in and will show 'CLEAR' only after matching 'Count In' with 'Count Out'.
2	Main Line/Run through Line	Preparatory Reset	On Duty SM/SS	After operation in and will show 'CLEAR' only after matching 'Count In' with 'Count Out'.
3	Point Zone/Loop Line/Siding	Conditional Reset	On Duty SM/SS with another Operating Staff	Will show 'CLEAR' after operation.

6.2.6 MSDAC RESETTING IN STATION SECTION:

At Lanjigarh Road yard MSDAC is provided in station section. Resetting of MSDAC shall be done through VDU by SM/SS on duty by following the procedure as below:

(a) Cooperative type for Point Zones/Loop Lines/Sidings:

Once the Axle Counter has failed and is showing fault indication, the on duty SM/SS shall first arrange to verify that the line on which the train has to be received physically on field is clear of any obstruction. Such physical verification of failed Track Section shall be done through Line Verification Box (LV Box) which shall be close to the line to be verified. The resetting shall be cooperative and done jointly by the on duty SM/SS along with another Operating Staff, who shall verify physical clearance of line and operate the Line Verification Box for the failed Track section of Axle Counter. After resetting done by SM on duty, trains can be admitted on signal.

(b) Main Lines/Run Through Lines:

- i. Preparatory Reset arrangement shall be initiated by the SM/SS on duty after ensuring that the failed Track Section is cleared of all obstruction.
- ii. SM/SS on duty shall activate Virtual Reset Key on the VDU by entering required Password for the purpose. On clicking on the failed Track Section a

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 menu will appear on the VDU and apply RESET.
- iii. 'PREPARATORY RESET' indication (GREEN) will appear near the failed Track Section on the VDU. However, the failed Track Section shall continue to show 'RED' indication on VDU.
- iv. The first train after the reset operation may be received by SM/SS on duty either by taking Off 'Calling On' signal or by Piloting of trains as per the extant rules after verification of the clearance of the reception line.

- v. Each and every reset operation shall be recorded in the Train Signal Register and Diary by the SM/SS on duty.

If the track section indication does not appear 'Green' and continues to show RED' indication after resetting of the failed track section, the concerned signal movement over the track section shall be suspended and failure intimation is to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

Note : Before Manual Resetting of the track section of MSDAC system, SM on duty shall ensure and satisfy himself that the failed track section is free from all obstructions **and verified physically on field.**

7. SIGNAL LAMP FAILURE INDICATION AND BUZZER ACKNOWLEDGMENT:

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



8. POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND POINT FAILURE ACKNOWLEDGEMENT:

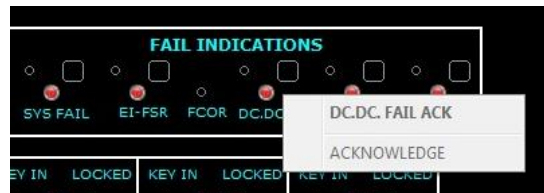
Whenever there is a failure of point due to non-setting, point failure indication flashing light appears near the point button icon along with point failure Buzzer. The buzzer stops when the point failure acknowledgement button icon is pressed, but the flashing light above the ACK button shall continue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



9. POWER FAILURE INDICATION AND BUZZER ACKNOWLEDGEMENT:

The DC-DC Converter failure indication will flash & relevant buzzer sounds whenever a power failure is noticed.

The power failure buzzer will be muted once the relevant acknowledgement button has pressed and the flashing indication is continued in the VDU till the problem is rectified.

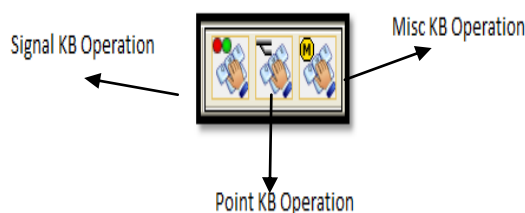


10. KEY BOARD OPERATIONS:

Essentially, "Keyboard Backup operation" is an alternative to the mouse operation. In the event of mouse absence or failure of mouse, the user is still able to operate the K-VDU application using the Keyboard shortcut keys.

The "Keyboard backup" group has three buttons on the toolbar:-

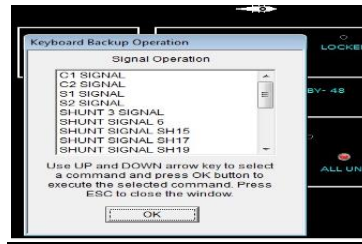
1. Signal KB (Keyboard) operation.
2. Point KB operation.
3. Misc KB operation.



10.1. SIGNAL KEY BOARD OPERATION:

Alternatively signal commands can be accessed using the shortcut "Ctrl+S" from the keyboard. When the shortcut is pressed, a dialog box with all signal menus will appear as shown in below at the bottom left corner of the window. Using Up (↑) and Down(↓) arrow keys of the keyboard select the desired item and press "Enter" key on the keyboard. A popup menu with all possible control menu items will appear near to the control and the dialog box will be closed. Again using arrow keys select the desired command to be issued and press "Enter" key on

the keyboard. After the command is selected, it will be sent to EI system and the popup menu will be disappeared.



10.2. POINT KEY BOARD OPERATION:

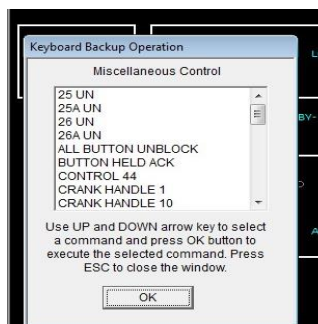
Alternatively, the point commands can be accessed using the shortcut "Ctrl+P". When the shortcut is pressed in the keyboard, a dialog box with a list of point commands will appear at the bottom left corner of the window as shown in below. Using Up (↑) and Down(↓) arrow keys of the keyboard, select the desired point command and press

"Enter" key on the keyboard. A popup window with all possible menu items will appear near to the control and the dialog box will be disappeared. User by using "Up" and "Down" arrow keys select the desired command and press "Enter" key on the keyboard. After the command is selected, it will be sent to EI system and the popup menu will be disappeared.



10.3. MISCLLENEOUS KEY BOARD OPERATION:

Alternatively, the miscellaneous menus can be accessed by using the shortcut "Ctrl+M". When the shortcut is pressed on the keyboard, a dialog box with a list of miscellaneous commands will appear at the bottom left corner of the window as shown in below.



Using Up (↑) and Down(↓) arrow keys of the keyboard, select the desired miscellaneous command and press "Enter" key on the keyboard. A popup window with all possible menu items will appear near to the control and the dialog box will be disappeared. User by using "Up" and "Down" arrow keys select the

desired command and press "Enter" key on the keyboard. After the command is selected, the command will be sent to EI system and the popup menu be disappeared.

11. **COUNTERS:**

The following counters are provided for recording the actions such as emergency point operation, emergency route release etc.

1. Emergency Route Release Counter.
2. Emergency Point Operation Counter.
3. Emergency Crank Handle Release Counter.
4. Up Calling on Counter.
5. DN Calling on Counter.

In addition to the above counters, a counter is provided on the Reset Box of each Block section LVCD. The increment in counter number for each and every such action should be recorded by the SS/SM on duty who shall record the details of the Operation along with the latest counter number in a register.

12. **TRACK SECTIONS:**

Both UP & DN main lines, 3rd main line and Common loop lines and all the point zones are provided with MSDAC track sections as L1XT1, L1XT2, L1XT3, L2XT1, L2XT2, L3XT1, L3XT2, L4XT1, L4XT2, L5XT1, L5XT2, L5XT3, L6XT1, L6XT2, L6XT3, 33AXT, 33BXT, 34AXT, 34BXT, 35AXT, 35BXT, 36AXT, 36BXT, 37AXT, 37BXT, 38AXT, 38BXT, 41AXT, 41BXT, 42AXT and 42BXT.

Approach track sections 1AXT, 2AXT, 3AXT and 4AXT of 5 Rail length for Calling on Signal are provided in rear of the UP, DN and, 3rd line Home signals. In addition there are short length track sections 1XT1, 1XT2, 2XT1, 2XT2, 2XT3, 3XT, 4XT1, 4XT2, and 4XT3 in advance of UP, DN and 3rd line Home Signals are also provided for their replacement. Similarly there are 5 Rail length track sections, 27XT and 28XT are provided beyond UP & DN Advanced Starter Signals respectively for replacement of Last Stop Signals. From the last trailing point/fouling mark in either side of yard to Advanced Starter Signals are also track sectioned i.e. 26AXT, 27AXT, 28AXT and 29AXT in UP and DN directions.. Indications for the above track sections are available on VDU. Yellow Strip on VDU indicates Route is set and track is clear and Red strip indicates Track is in

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On account of the doubtful operation of any track section 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 sections by observing the track indications of the track on either side of the cross over by positively checking the entrance and exit track sections are showing occupancy and clearance in accordance with the train movement.

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

Miniature colour light Calling-on signal is provided below the Home signals and starter signal Nos. 10, 12, 14, 15, 16, 17, 20, 23 and 25 in terms of GR.3.13 (6)(b). A Calling-on signal shows no light in the 'ON' position. A Calling-on signal is taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' for admission of train on blocked line or due to failure of main signal due to any other reason.

To take off Calling-on signal the train must come to stop at the foot of the Home signal/starter, occupying the track section (1AXT, 2AXT, 3AXT, 4AXT etc.) as the case may be in rear of the Home signal/starter. When a train occupies the track section, 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 for Calling-on below Home signals and Zero time delay for Calling-on below starters, the Calling-on signal clears. In case of Calling On signal below Home signal/starter, yellow light glows at the concerned Calling-on signal on the VDU.

NOTE:

- i) Before taking "OFF" Calling-on signal during failure of track circuit, the clearance of track over which the train is intended to be received must be verified physically.
- ii) SM on duty to ensure that no through signals are given while receiving a train on Calling-on signal.

13. RELEASE/CANCELLATION OF ROUTE:

Normally when a train is received on or dispatch from any route, 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 on SM on duty intends to cancel the route set by him shall follow the procedure for cancellation of route described in Para No.5.1 of Appendix-B above. If the route is not released even after resorting to cancellation the SM on duty should inform the Signal Maintainer/JE/SSE for its rectification.

Note: UP & DN Calling on Signals and UP & DN Advanced Starter Signals are to be manually cancelled after the passage of the train to release the route. In both the cases after passage of train, cancel the signal to release the route.

14. 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 on duty shall follow the Para No.5.1 of Appendix-B.

15. 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].

16. PILOTING OF TRAINS - OUT OF STATION YARD:

In case the advanced starter signal has become defective, such signal shall be passed on the written authority on the form T/369(3b), with PN & ID for double line. In case of single line the Loco pilot shall be issued PLCT as authority to proceed.

17. SHUNTING:

Shunt back signals SH-5(A/B/C/D), SH-7(A/B), towards RPRD end of the yard, SH- 6(A/B) and SH-8A/B are provided towards LJR end of the yard. SH-10, SH-12 and SH-14, SH 16 and SH 20 are provided at RPRD end of the yard below starter signals and SH-15, SH-17, SH-23 & SH-25 are provided towards LJR end of the yard and SH 18 on DN line for yard shunting. For taking OFF Shunt signals please refer Para No. 4.6.2 of APPENDIX-B.

18. 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 entrance, berthing and dispatch portion of the yard shall be kept clear of any obstruction for the passages of any train or for any other movements. The clearance of the route including overlap must be ensured by the DY.SS/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.

19. OBSERVATION OF TRACK SECTION 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 sections (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 sections on which the train was earlier stabled, the signals leading on the line shall be suspended and the S & T maintenance staff be informed to attend.

20. 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.

21. Correction Slip No.02 DATE CHECK BEFORE RESUMING NORMAL WORKING:

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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 (d) and RB letter No. 2021/SIG/21/safety performance, dtd:10.06.2023 & amendment issued vide letter No: 2023/TT-IV/9/2, dtd:16.06.2023.

22. 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 pre-plan these works. Field staff and the Inspector of the section should give to the Station master in writing 'Advance Intimation' about this work in terms of G & SR.15.08.01.

23. EMERGENCIES:

Notwithstanding, anything contained in the aforesaid paras when equipment is found defective and unsafe for passage of trains, the Signal and Telecom staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of the defect or damage to the interlocking installation to the 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.

24. PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL OR POINTS AND USE OF CRANK HANDLE:

1. Whenever a Signal or a Point becomes defective any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at the Station.
2. In case of failure of Signal or a Point and in case the Point cannot be operated from the VDU, the Crank Handle which is interlocked with the system has to be extracted and the following procedure has to be observed.
3. One common emergency Crank Handle key is provided for certain group of Motor operated Points. This is mechanically riveted to the Key of RKT. This Key along with Crank Handle can be released from the RKT by pressing the RKT Push Button provided near the RKT. In case of failure of Point Motor the SM on duty will take out the Crank Handle, set the Point manually by inserting Crank Handle in the Motor.
4. When the Crank Handle key is removed from RKT for operation of the defective Motor Operated Points, the responsibility for its safe custody rests with the ASM/SM on duty till it is replaced back in RKT.
5. The failure of Motor Operated Points should be promptly reported to the concerned Signal Inspector/ESM for immediate rectification.
6. Whenever a Crank Handle key is required to be used by a Signal Official for maintenance/attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the Crank Handle register, the Station Master on duty will obtain acknowledgement of the Signal Official in the Crank Handle Register and then handover to him the Crank Handle key for the Points concerned. All the Points will be treated as defective till the Crank Handle key is returned back to Station Master on duty.
7. Before parting with the 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.
8. The Crank Handle Register is to be maintained in the following pro-forma by the Station Master on duty wherein the particulars of usage of the Crank Handle must be recorded:

- a. Date:
- b. Point Number which failed or required to be tested:
- c. Time failure:
- d. Disconnection memo number received from S&T Staff:
- e. Signature of SM/Signal Official to whom the Emergency Crank Handle is handed over:
- f. Time Emergency Crank Handle is sent out:
- g. Individual Point numbers, and Line number nominated for admission of dispatch for which Points are set, Clamped and Padlocked:
- h. Train number to be admitted or dispatched:
- i. Signature of the Station Master on duty to ensure correct setting, Clamping and Padlocking of the Points:
- j. Date and Time fault rectified.
- k. Time of Emergency Crank Handle received back by SM on duty:
- l. Signature and Designation of the Signal Official who rectified the fault:
9. In case of blanking off or failure of both the VDU's, Crank handles can be released. The procedure mentioned Vide Para No,5.3.1 to be followed for release of crank handles.

25. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

25.1. INTERLOCKING WITH HOME SIGNALS:

All the UP and DOWN HOME Signals are Electrically interlocked with the respective DLBI /UFSBI so that the handle of the DLBI/UFSBI Instrument cannot be turned from TRAIN COMING FROM position to LINE CLOSED position of UP or DOWN direction as the case may be unless the respective Home Signals is put back to NORMAL position and the respective Block Section monitored by Axle Counter is clear of trains.

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25.2. INTERLOCKING WITH ADVANCED STARTER SIGNALS:

The UP Advanced Starter Signals No.27 is electrically interlocked with respective DLBI of section NRLR-LJR so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in 'LINE CLEAR' position.

The DN Advanced Starter Signals No.28 is electrically interlocked with respective DLBI of section NRLR-RPRD so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in 'LINE CLEAR' position.

The UP Advanced starter signal No 29 on 3rd line between NRLR-LJR and DN Advanced starter signal No 26 on 3rd line between NRLR-RPRD are inter locked with the UFSBI Block Panel of respective section. Unless the UFSBI Block Panel is in Line clear position concerned UP/DN Advanced starter signal cannot be taken OFF.

25.3. SUSPENSION OF LAST STOP SIGNALS:

When the Double line block instrument for section NRLR-LJR or NRLR-RPRD is suspended with its handle in any position for whatever reason the concerned Last

Stop Signals controlled by the DLBI must be treated as suspended and trains shall be Piloted Out.

When the UFSBI Block panel for section NRLR-LJR or NRLR-RPRD is suspended with its handle in any position for whatever reason the concerned Last Stop Signals controlled by the UFSBI must be treated as suspended and trains shall be Piloted Out.

26. NORMALISATION OF THE BLOCK SECTION AXLE COUNTER AND OF BLOCK WORKING BY RESETTING FEATURE:

1. Digital Axle Counters are provided on Up and Down line Block Sections between NRLR-LJR, NRLR-RPRD and on 3rd line between NRLR-LJR and NRLR-RPRD stations.
2. The occupation and clearance of the axle counter section are indicated on the VDU by 'RED' and 'GREEN' light.
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 in either Section.
4. No train shall be allowed on signal to leave a station in any particular direction unless
Block Section clear indication is available for the relevant Axle Counter section portion and Last Stop Signal is taken OFF. [Refer Para No: 6.1 of appendix 'B' for procedure of resetting of LVCD Axle counter].

27. TELECOMMUNICATIONS:

- (i) Telephone attached with DLBI and UFSBI Block panel of NRLR-RPRD&NRLR-LJR Block Sections.
- (ii) Station to Station fixed telephone (Hot line) is provided
- (iii) Station is provided with Auto telephone connected with Railway Exchange.
- (iv) BSNL telephone is provided.
- (v) The station is connected to Balangir-Singapura 'B' cabin control circuit by a control telephone.
- (vi)

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 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 RV-196 at KM.239/11-13(UP), 239/12-14(DN), 239/12A-14A(3rd), RV198 at KM.237/11-13(UP), 237/12-14(DN), 237/12A-14A(3rd), RV-199 at KM.240/9-11(UP), 240/10-12(DN), 240/10A12A(3rd), RV-200 at KM.241/7-9(UP), 241/8-10(DN), 241/10A-8A(3rd), RV-201 at KM.241/33-242/1(UP), 241/34-242/2(DN) 241/34A-242/2A(3rd)
- (ix) Telephone is provided for communication 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

28. POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS:

- i) The station works on 230V single phase power supply. The normal power supply is from the auxiliary transformer (25KVA Rating) connected to OHE traction distribution system.
- ii) Standby power supply: Standby power supply: Odisha State Electricity Board Supply.
- iii) An Auto changeover switch is provided in the Station Master's Office with the three power supplies viz. UP AT, DN AT and Local supply for automatic selection from available source or changing the switch position to the required supply manually. A luminous indicator provided above the circuit breaker for each supply indicates the availability of the supply.
- iv) Normally the switch is kept in auto mode. Whenever power block is to be given, the on duty SM must ascertain that power is available on the other AT eg. if power block is given to the UP line, DN AT must be available and vice-versa.
- v) In case of failure of one of the AT Supply without any power block, the on duty SM has to check whether the circuit breaker has tripped (Three circuit breakers are provided in the changeover switch board one for each supply and their normal position is Up and when tripped it goes down). In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch. If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any means and a message shall be given to concerned SSE [Elect.] and SSE/PSI [OHE] for prompt rectification.
- vi) For IPS system which provides supply to EI, a manual changeover switch is provided at SM's Office with the two power supplies viz., selected supply from CLS panel and State power supply for changing the switch to required supply position manually.
- vii) Normally manual changeover switch is kept in selected supply from CLS panel position, if in case any emergency, changeover switch is changed to local supply position by on duty SM.
- viii) There is a remote monitoring ASM box provided at the Cabin to monitor the

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29. REMOTE MONITORING ASM BOX:

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

- i) 50% depth of discharge (DoD) of battery. In this condition audio/visual alarm comes, which can be acknowledged with audio cut-off.
- ii) 60% DOD, which warns for emergency. The alarm for this condition is same as for condition 1.
- iii) 70% DOD, which signals system, shut-down. In this condition signal feed is cut-off and all DC-DC converters continue working. Audio alarm continues till power supply is restored.
- iv) Any of the module fails, which calls for 'call S&T'.
- v) Whenever there is a failure of power supply in AT or Local 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 AT and Local and make an entry in the Cabin Diary duly initiating action for rectification of failure, if any.

30. WORKING OF AUTOMATIC FIRE DETECTION AND ALARM SYSTEM:

- i) In case of any alarm in any particular area due to fire or dust-Zone number on the LCD display can be seen, note down the zone No. displayed in control panel.
- ii) The moment the smoke detector detects any smoke particles, the RED LED will blink along with the alarm.
- iii) Once you find the zone number rush to that particular area where the detector gives alarm.
- iv) Once you reach the area where the detector is giving the alarm, check whether the alarm is due to the fire or for any other reason.
- v) Then call immediately to the staff of concerned department.
- vi) Call the fire station if required.
- vii) Take action to extinguish the fire by the fire extinguishers available in the station.
- viii) To alert the people in case of emergency press “*” sign of the fire which is present inside the key pad together for few seconds. This will enable you to hear the panel alarm.
- ix) **To reset the panel follow the instructions provided by S&T official in station master’s room near the fire alarm panel.**
 - x) The control panel will get reset and siren muted.
 - xi) If the power fails on this will enable us to see the red indicator on the panel.
 - xii) In case of failure in power and if the battery is fully charged, the panel can function effectively as long as the charge in the battery is present.

APPENDIX - 'C'

ANTI COLLISION DEVICE (RAKSHA KAVACH)

-- NIL --

APPENDIX - 'D'

1.0 STATION MANAGER-I (INCHARGE) :

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

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

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

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

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

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

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

He is responsible for booking all staffs working under him for PME and Refresher Course / Safety camp in their due time. His Special attention is drawn out to chapter-II of General and Subsidiary Rules and GR 5.01 to 5.08 with relevant Subsidiary Rules, Chapter – 2 of Operating Manual.

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

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

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

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

His special attention is drawn to chapter No. II of G & SR 1976 (Revised-2012) and GR 5.01 to 5.08 with relevant SRs. He shall follow the instruction laid down in SR 3.68.01© & (d) and SR 14.07.01 and BWM 2.09 (e). He shall conduct surprise night inspection, safety meetings and fire drills. He shall maintain good public relation as well as look after passenger's amenities and be helpful to travelling public.

1.1 **ASSURANCE REGISTER:**

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

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

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

The declaration shall be renewed in the following cases: -

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

- 2.0 **USE OF PRIVATE NUMBER BOOKS IDENTIFICATION NUMBER SHEET :-**
Sufficient Private Number books and I.D number sheets in sealed covers shall be kept always in the stock by Station Superintendent under lock and key. He shall maintain a register for this purpose.
- 3.0 **ACCIDENTS:**
Accidents shall be reported and immediate action shall be taken by the Station Superintendent in charge in accordance with the instruction laid down in the Accident Manual. Whenever the Station Superintendent received report of an accident, he shall take all necessary precautionary measures to protect the traffic and shall arrange earliest possible assistance as required at the site of accident. He shall frame the accident message/reports and follow up all safety principles without delay.
- 4.0 **TESTING OF POINTS AND SIGNALS:**
The Station Superintendent shall test the working of the reception signals daily during the day when there is no train due to arrive/leave the station. He shall also test the working of points, crossings, Crank Handle, etc. and record the result in the Station Master's diary.
- 5.0 **SS/STATION MASTER:**
He shall work in 8 hrs. shift for train passing and booking of traffic, coaching returns and other statements shall be prepared and submitted by him in time under the direction of the Station Superintendent in charge. He shall assist the Station Superintendent in charge for the up keep of the station in all aspects.
- Station Master on duty who makes an entry in the train signal register must continue on duty till all the entries pertaining to the trains are completed vide Subsidiary Rule 14.07.01.
- He is responsible for working beyond this period when called upon to do so in the exigencies of services. He will follow SR 3.68.01© & (d), SR 14.07.01. Their special attention is drawn to Chapter II of G & SR 1976 (Revised-2020) 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 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) Piloting and hand signaling of trains when necessary.
- (iv) Knowledge of hand signals, detonators and their use.
- (v) Protection of line in emergency and fog signalling.
- (vi) Exchange of signals with the Loco Pilot and Guard of passing trains as directed by the Station Master.
- (vii) Cleaning, Oiling and lighting of lamps.
- (ix) Loading/unloading of parcels, luggage and packages to and from the train and watching the packages and other materials by properly stacking in the station premises.
- (x) Dusting of station office, filling up the fire buckets with sand/water and getting train intact arrival register (T/1410) signed by the Guard as and when required.
- (xi) Serving messages and any other duties entrusted to them by the SMR/SM from time to time.
- (xii) Uses of emergency crank handle for setting of points.
- (xiii) To supervise shunting as per SR 5.13.03.
- (xiv) They must be thoroughly conversant with the GR 3.38, 3.46, 3.77(I), 5.09, 3.52 to 3.60, 3.62, 5.13, 5.15, 5.16, 5.21, 5.23 & SRs there to and their special attention is drawn to chapter No.II of G & SR (Amendment) 2000 also.
- (xv) When necessary, they will work in the Goomties for observing and reporting the complete/incomplete arrival/departure of trains as per the order of the SM on duty in case of failure of Axle Counter/Track Circuit.

APPENDIX - 'E'

ESSENTIAL EQUIPMENT OF THE STATION

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

Sl. No.	Description	Quantity
1.	Detonators	10 in tin case
2.	Tri-colour torch	04 Nos.
3.	Hand signal flags	04 sets.
4.	Safety chains with pad locks	12 Nos.
5.	Wooden Wedges	16 Nos.
6.	Skid	02 Nos.
7.	Fire buckets (with sand and water)	06 Nos.
8.	Clamps with padlocks	14 Nos.
9.	"Block suspension" Boards	04 Nos.
10.	"Motor Trolley on Line" Boards	04 Nos.
11.	First aid Box	01 No.
12.	Stretcher	01No.
13.	Fire extinguisher	02 Nos.
14.	Blanket	01 No.

APPENDIX - 'F'

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

--- NIL ---

APPENDIX- 'G'

STATION WORKING RULES FOR 25KV AC ELECTRIC TRACTION

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

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

- a) A sectioning diagram No. **RVNL/WAT/SWR/NRLR/22/06** 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 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. Hence every station master shall be fully aware of the location of the isolator switches provided for the control of power supply of OHE at or near the station and shall be conversant with correct method of operating and closing the same (Competency certificate is provided after getting assurance)

Sl.No.	Isolator No.	Loc. No.	Sl.No.	Isolator No.	Loc. No.
1.	SM-28	237/36A	6.	SS-125	238/33
2.	SM-30	237/26			
3.	SM-29	237/33			
4.	SS-127	238/XO-2			
5.	SS-126	238/34			

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 & OHE KEY REGISTER :

The keys for the padlocks of various isolator Switches are kept in the ASM's Office in a box with a glass mounted cover (17.04.13). The Station Master shall daily check the keys of switches of the isolators and report any defects or deficiency to the Traction Power Controller. In the event of breaking of glass box the procedure stipulated in SR 17.04.13 (b) has to be strictly followed. If operation (open/close) of isolators is required for the purpose of loading/unloading, the opening time & closing time of isolators with its purpose is to be clearly mentioned in this register.

8. PROCEDURE AND PRECAUTIONS FOR OPERATING ISOLATORS:

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

9. POWER BLOCK:

- a) The detailed procedure for obtaining power block has been given in G.R. 17.04.02, 17.03.03 & 17.04.04 and ACTM para 20603,20604,20611,20612 & 20613 which must be rigidly followed except in case of emergency.
- b) The sequence of switching operations for granting and cancelling the Power Block for a particular section, are included in the Annexure. These shall be strictly followed by all staff. Failure to follow the sequence indicated is likely to lead to dangerous consequences. The protection 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 locomotives 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 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 III 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 given 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 purposed 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 within case of double heading or banking by electric locomotive and precautions indicated therein must be complied with when dispatching locomotive

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 wanted 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. 17.04.07 (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 Mast/Cabin master on duty must always watch for any unusual working in the Block instrument or any other signalling equipment, which may arise due to voltage, induced from traction system. The Block instrument or the signalling 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 must immediately check up whether all Block and signalling 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.

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.
 - Inform traction Power Controller.
 - Extinguish fire by special extinguishers, if available.
 - Ensure no water jet is used under any circumstances.
2. Anything unusual on Traction Wire 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 kilometre 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 signalling 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 articles likely to be brought within the danger zone of 2 Mtrs. (Approximately 7 feet) of the traction wires.

i) 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.

