EAST COAST RAILWAY
SAMBALPUR DIVISION

STATION WORKING RULES OF SARLA STATION (CODE:SLRA)

BG/MG/NG :Broad Gauge
Date of issue:10.06.2024
Date Brought in to force:

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

1. **STATION WORKING RULE; -**

1.1 **STATION WORKING RULE DIAGRAM NO.WRD.ECoR.SBP.SRLA.01 ALT-'B'**.

1.2 **SIGNAL INTERLOCKING PLAN NO**.: - **SIP.ECoR.SBP.SRLA.01. ALT-D**

The Station Working Rule diagram and Signal Interlocking Plan shows the complete lay out of the yard, siding, normal position of points, the 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**: **-**
SARLA is a seven-linestation along with Examination Line No.1 & 2, Loco Reverse Line and ROH line No.1&2 situated in Jharsuguda - Sambalpur section at KM 555.405 (555/13-15(UP),14-16(DN)) from HWH. & KM 40.800 from JSG. It is Standard – II interlocked, Class 'B' station with Electronic Interlocking and having double line Absolute Block System of Working. HASSDAC at either end are provided at the station for last vehicle check.

2.1 **GENERAL LOCATION: -**

2.1.1	**NAME OF STATION**	**:**	SARLA (SLRA)
2.1.2	**CLASSIFICATION OF STATION**	**:**	'B' class
2.1.3	**NAME OF THE SECTION**	**:**	Jharsuguda- Sambalpur, Double line towards SSN & SBP and Single Line towards SBPY, Electrified, BG section.
2.1.4	**ROUTE**	**:**	"D".
2.1.5	**LOCATION**	**:**	KM 555.405 from HWH via JSG& KM 40.800 from JSG.

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

i) TITLAGARHend -SAMBALPUR (Code: SBP) inter distance 7.247 K.M.

ii) TALCHER end- SAMBALPUR CITY (Code: SBPY) inter distance 3.65 K.M

iii) JHARSUGUDA end - SASON (Code: SSN) inter distance 6.457 K.M.

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iv) Passenger Halt: - Nil

v) Flag station: - NIL.

vi) Outlying siding: Nil

vii) D.K. station: - Nil.

viii) IBH: - NIL

ix) IBS: - NIL

2.3 BLOCK SECTION LIMITS: -

Between stations	**The point from which 'Block section' commences.**	**The point at which 'Block section' ends.**
Between SLRA-SBP (UP Line)	UP Advanced starter signal No.83 of SLRA Station	Outer most point of point no. 53A of SBP Station.
Between SLRA-SBP (DN Line)	DN Advanced Starter Signal No 42 of SBP	Outer most point of point no. 102Aon DN line of SLRA Station.
Between SLRA- SBPY	UP Advanced Starter Signal No.81 of SLRA Station.	DN Advanced starter signal of SBPY Station
Between SLRA – SSN DN Line	DN Advanced Starter Signal No 80 of SLRA.	BSLB of SSN Station on DN Line
Between SLRA-SSN UP Line	UP Advanced starter of SSN station on UP Line.	Outer most point of point no. 101A of SLRA Station.

2.3.1 **STATION SECTION:**

The portion between DN Advanced starter signal No 80 at SSN end to Outer most point of point no. 102Aon DN line of SBP end and UP Advanced starter signal No 83 at SBP end & UP Advanced starter signal No 81 at SBPY end to Outer most point of point no. 101Aon UP line of SSN end is the station section of SLRA station.

2.3.2 **STATION LIMIT:**

The portion between DN Gate cum DN Distant signal 2GF to DN Advanced starter signal 80on DN Line & UP Distant to UP Advanced starter signal No 83 at SBP end & DN Home signal at SBPYend is the station limit of SLRA station.

2.4 **GRADIENT: -**

(a) FROM THE CENTER OF STATION BUILDING TOWARDS SAMBALPUR FOR ROH & EXAMINATION LINE.

CHAINAGE IN METER		**INTER DISTANCE**	**GRADIENT**
FROM	**TO**		
0	11.61	11.61M	1 in 750 F
11.61	443.00	431.39M	1 in 400 F
443.00	1000.00	557M	1 in 958.7 R
1000.00	To wards block section	---	1 in 200 R

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(b) FROM THE CENTER OF STATION BUILDING TOWARDS SAMBALPUR.

CHAINAGE IN METER		INTER DISTANCE	GRADIENT
FROM	TO		
0	690	690M	1 in 420.635 F
690	1000	310M	1 in 3924R
1000	2210	1210M	1 in 200 F
2210	2560	350M	LEVEL
2560	3170	610M	1 in 200 R
3170	3340	170M	LEVEL
3340	4240	900M	1 in 185.67 F
4240	4680	440M	LEVEL

(c) FROM THE CENTER OF STATION BUILDING TOWARDS SAMBALPUR CITY (BYPASS LINE)

CHAINAGE IN METER		INTER DISTANCE	GRADIENT
FROM	TO		
0	690	690M	1 in 420.635 F
690	960	270M	LEVEL
960	1810	850M	1 in 205 R
1810	1930	120M	LEVEL
1930	2230	300M	1 in 200F
2230	2635	405M	LEVEL
2635	2750	115M	1 in 200 F
2750	4250	1500M	1 in 1200 F

(d) FROM THE CENTER OF STATION BUILDING TOWARDS SASON FOR ROH & EXAMINATION LINE.

CHAINAGE IN METER		INTER DISTANCE	GRADIENT
FROM	TO		
0	108.381	108.381M	1 in 750R
108.381	To wards block section	---	1 in 420.635 R

(e) FROM THE CENTER OF STATION BUILDING TOWARDS SSN (UP LINE)

CHAINAGE IN METER		INTER DISTANCE	GRADIENT
FROM	TO		
0	900.842	900.842M	1 in 420.635 R
900.842	1220.0	319.158M	1 in 253 R
1220.00	1340.00	120M	LEVEL
1340.00	2320.00	980M	1 in 200 R
2320.00	2960.00	640M	LEVEL
2960.00	3188.00	228M	1 in 200 F
3188.00	3900.00	712M	LEVEL

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(f) FROM THE CENTER OF STATION BUILDING TOWARDS SSN (DN LINE)

CHAINAGE IN METER		INTER DISTANCE	GRADIENT
FROM	TO		
0	900.842	900.842M	1 in 420.635 R
900.842	1350.0	449.158M	1 in 182 R
1350.0	1432	82M	LEVEL
1432	2285.00	853M	1 in 100 R
2285.00	2435.00	150M	LEVEL
2435.00	3447.00	1012M	1 in 166 F
3447.00	3638.00	191M	1 in 125 F
3638.00	3900.00	262M	1 in 161.83 R

2.5**LAY OUT: -**

i) No. of running lines :- 7 (seven)along with Examination Line No.1 & 2, Loco Reverse Line and ROH line No.1&2

ii) No. of sidings :-10 (ten)

iii) No. of Passenger platform :- 03, (One Raillevel Passenger Platform beside Line No.-1 (500 m X 6.10m) and another Rail level Island Passenger Platform between line No 3 & 4 (500m X 9.50m).

iii) No. of goods shed platform :- NIL

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

DESCRIPTION	CSL	ISOLATION PROVIDED	
		TOWARDS SSN	TOWARDS SBP/SBPY
Line No.1 (Common Loop)	741mtrs. (Str. To Str)	ORL	ORL
Line No.2 (DN Main Line)	741mtrs. (SS. To Str)	----	---
Line No.3 (UP Main Line)	887mtrs. (SS to Str)	----	---
Line No.4 (Common Loop)	798mtrs. (Str. To Str)	ORL	ORL
Line No.5 (Common Loop)	715mtrs. (Str. To Str)	ORL	ORL
Line No.6 (UP Loop)	752mtrs. (Str. To SH)	ORL	ORL
Line No.7 (UP Loop)	730mtrs. (Str. To SH)	ORL	ORL
Examination line No.1	770mtrs. (Str. To SS)	ORL	DS
Examination line No.2	728mtrs. (Str. To SS)	DS	DS
Loco Reverse Line	723mtrs. (Str. To SS)	DS	DS

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

a. Trains arriving from SASON end are UP trains.

b. Trains arriving from SAMBALPUR&SAMBALPUR CITY end are DN trains.

2.5.2 **NON-RUNNING LINES AND THEIR CAPACITY IN CSL**. –

Sl. No.	Description	CSL	Takes off from	Exit	Operation
1.	Shunting Neck	271M(SH-SS)	Examination Yard	One way	Controlled from VDU.
2.	Shunting Neck	85M(SH-SS)	Line No.1	One way	Controlled from VDU.
3.	Shunting Neck	93M(SH-SS)	Line No.6	One way	Controlled from VDU.
4..	Sick Line	295M(SH-SS)	Line No. 6	One way	Controlled from VDU.
5.	Shunting neck	745M(SH-SS)	Examination Yard	One way	Controlled from VDU.
6.	Shunting neck	68M(SH-SS)	ROH Line No,2	One way	Controlled from VDU.
7.	Wheel Parking Siding	62M(SH-SS)	ROH Line No,2	One way	Controlled from VDU.
8.	Trolly Wheel Parking Line	250mM(SH-SS)	ROH Line No,2	One way	Controlled from VDU.

2.5.3 **ANY SPECIAL FEATURES IN THE LAYOUT: -** CSL of L-3 is more than 800m. to avoid premature release of signal overlap initiation will take place when rear portion of point zone track circuit is clear by the passage of train and L3T3/L3T2 is occupied in UP direction.

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

SL No.	Location	K.M.	Normal Position	Class	Type	Operation	Communication
1.	Between DN Advanced Str. Sig. No.80 and Shunt signal SH5.	554.180(554/17-19(UP),554/20-18(DN)(JT-23)	Open to road traffic.	'C'	Inter locked	Electrical Operated Lifting barrier	Telephone connection with SM/SLRA.

2.7 **LEVEL CROSSINGS: (IN BLOCK SECTION)-**

SL No.	Location	K.M.	Normal Position	Class	Type	Operation	Communication
1.	Between SLRA-SBP/SBPY	557/15-17(UP),16-18(DN) (JT-24)	Open to road traffic	'C'	Inter locked	Winch Operated Lifting barrier	Telephone connection with SM/SLRA.
2.	Between SLRA-SSN	550/5 (JT-22)	Open to road traffic	Spl'	Inter locked	Winch Operated Lifting barrier	Telephone connection with SM/SSN.

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Train Actuated Warning Device has notbeen provided atabove Level Crossing Gates. (**Working of the Level crossing gates is detailed in** Appendix - 'A')

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

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

i)	**System of working**	**:-**	Absolute Block system
ii)	**Type of Block instrument**	**:-**	Token less Block Instrument (Daido) for SLRA-SBPY, DLBIfor SLRA-SSN & SLRA – SBP section
iii)	**Instrument**	**:-**	Non Co-operative type DLBI & Co-operative type TLBI
iv)	**Block Telephone**	**:-**	Provided between SRLA – SBP, SRLA - SBPY and SRLA-SSN
v)	**Staff responsible for their operations**	**:-**	S.M. on duty
vi)	**Custodian of keys**	**:-**	S.M. on duty

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

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

The station is provided with Standard II interlocking, central VDU with Multiple Aspect Colour Light Signalling and LVCD Axle Counters. All the points are centrally operated from central VDU by on duty Station Master. The Home signals and Advanced Starter signals are interlocked with respective Block instruments. GR 3.08(4) (b) governs the aspect and indications of the signals respectively. The station has no end cabins.

DN Distant signal of SLRAhas been combined with DN gate stop signal2GF of level crossing gate No.JT-24 and UPGate distant of level crossing gate No.JT-24 has been combined with. UP advanced starter 83.

Minimum equipment of signal –Distant, Home, Starter and Advanced starter signals in SSN and SBP end and Home, Starter and Advanced starter signals in SBPY end.

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

The Station is provided with DistributedElectronic Interlocking (EI) system of. All signals and points are electrically operated from the VDU provided at SM's Office. A stand by VDU is also provided to switch over the system in case of failure of working VDU. Calling-on signals are provided below Home signals and starter signals (i.e. in both UP & DN directions). Central VDU is provided in the Station Master's office to electronically control all signals, points and Gate etc. The VDU is provided with SM's KEYUser name and password which shall always remain in personal memory of SM on duty.

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

4.1.3 **TRACK CIRCUIT: -**

All the lines including point zone between Home and Advanced starter signal on either direction is track circuited. The position of the running lines including point zones i.e. occupied/clear is indicated in the illuminated diagram at the Station Master's office. Normally there will be no

indication of track circuits. It shows 'RED' when the line is occupied and 'WHITE' when the line is clear provided the route is set.

4.1.4 **AXLE COUNTER**:

Block section SLRA-SSN,SLRA-SBP &SLRA-SBPYare monitored by axle counter system (HASSDAC)) have been provided for last vehicle check.

The position of block section i.e. clear/occupied is reflected on the reset box panel provided in the Station Master's office which shows 'GREEN' when the block section is clear and 'RED when the block section is occupied. The occupation and clearance of the axle counter section are also indicated on VDU by RED & GREEN light respectively.

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

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

A visual indication is provided in front of SM to enable him to report to ESM/JE signal when one Axle counting system fails.

SLRA-SBP(UDXT):

HASSSDAC is provided one beyond UP Advanced starter signal No.83 of SLRA and another 180 M beyond UP Home signal of SBP 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.

SBP-SLRA (DR XT):

HASDAC is provided one beyond DN Advanced starter SignalSBPand another 180 M beyond DN Home signal No.2 of SLRA 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.

SLRA-SBPY(BAXT) :

HASSDACis provided one beyond DN Advanced starter Signal SBPYand another beyond UP Advanced starter signal No. 81 of SLRA on SLRA-SBPYline 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.

SSN-SLRA (UR XT):

HASSDACis provided one beyond UP Advanced starter signal of SSN and another 180 M beyond UP Home signal of SLRA 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.

SLRA-SSN (DD XT):

HASDACis provided one beyond DN Advanced starter Signal No.80of SLRA and another 180 M beyond DN Home signal of SSN 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.

4.1.5 **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 electrical point machine and have built in locking and detection arrangement.

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

EKTs with crank handle keys are provided at both end locations for the operation of points in case of failure of point motors, The keys for the crank handles are transmitted electrically to the crank handle locations for operating the points by crank handles.

4.1.7 **CRANK HANDLE**

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

CRANK HANDLE	CONTROL POINTS
CH1	101A/B. 115A/B
CH2	103A/B. 117A/B
CH3	113A/B. 121A/B
CH4	123. 125. 127A/B
CH5	129. 131A/B
CH6	105A/B. 119A/B
CH7	107. 109A/B. 111A/B
CH8	133A/B. 135. 137A/B
CH9	139A/B. 141
CH10	116A/B
CH11	118. 120A/B. 122A/B

CH12	140A/B. 142. 144. 146. 148

CH13	130. 132A/B. 134. 136A/B. 138
CH14	112. 124A/B. 128A/B
CH15	126
CH16	102A/B. 114A/B
CH17	104A/B. 110A/B
CH18	106A/B, 108A/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 concerned 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. For transmitting 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.

4.1.8 EMERGENCY CRANK HANDLE RELEASE DURING FAILURE OF BOTH EI (ACTIVE & STANDBY) SYSTEMS:

When both the EI system fail to operate due to power failure or whatever be the reason, all the crank handles are released at a time and the SM on duty can set the required point/points through Crank handles manually by extracting the key/ keys from EKT providedin the location boxes. The signaling staff i.e., SSE/JE/SIG or ESM shall be intimated immediately regarding the failure for rectification of the same.

4.1.9 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.

4.1.10 EMERGENCY CRANK HANDLE RELEASE DURING FAILURE OF VDUS (ACTIVE and STANDBY)

Please refer Para No. 5.3.1 of Appendix B of this SWR for operation.

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

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

4.1.12 **EMERGENCY 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, 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.

4,1.13 **IBS:** NIL

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

4.1.15 REPEATER(BANNER TYPE): NIL

4.1.16 CALLING ON SIGNALS:-

Miniature colour light Calling-on signalsare provided below the Home signals and 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 above it cannot be taken ‘OFF’ due to failure or any other reason or for admission of train on a blocked line. Before taking ‘OFF’ Calling on signal during failure of track circuit/ Axle counter the route and clearance of the track over which the train will be admitted must be checked physically by SM on duty. Calling-on signal belowHome signal clears in 60 sec.But calling-on provided below starter signal clears without any time delay but SM on duty must ensure that the train has stopped at concerned starter signal.

While admitting a train on calling on signal SM must satisfy himself that the lineon which train is being received on calling on signal is free from all sorts of obstruction including fouling track circuits if any by physical verification, when track circuit showing occupation.

‘Calling on’ signals have been provided below UP, DN home signals & below UP Starter signal No 21, 23, 25, 27, 29, 33 and DN starter signal No.26, 28, 30, 32, 34, 38, 40. It shows no light when ‘ON’ and ‘YELLOW’ light when taken off.

4.1.17 **SHUNT SIGNALS:-**

Shunt signals at top point viz., SH5 at SSN end and SH8 at SBP end and SH10 at SBPY end have been provided for back shunt movement, SH6, SH7, SH9, SH13, SH14, SH16, SH18, SH22, SH24, SH41, SH43 & SH45 are provided at siding.SH21, SH23, SH25, SH27, SH29, SH33 below starter signals, at SBP &SBPY end and SH26, SH 28, SH 30, SH32, SH34, SH36, SH38, SH40, are also provided below starter at SSN end of the yard for yard shunting.Shunting is prohibited with main signal in this yard.

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4.1.18 ANTI COLLOISION DEVICE: - NIL

4.1.19 **EMERGENCY CROSSOVER:-**NIL

4.1.20 **LC GATE OPERATION:-**Given in Appendix ‘A’

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 lock in relay room includes all relay rooms, 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.

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

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

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

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

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

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

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

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

4.3 POWER SUPPLY: -

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 e.g.Ifpower 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 dutySM 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 in automode, 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 SM office 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 Station Master Diary duly initiating action for rectification of failure, if any.

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5.0 TELECOMMUNICATION FACILITIES: -

1. Telephone attached with Block Instruments for SLRA- SBP, SLRA-SSN & SLRA-SBPY Block Sections.
2. Station to Station fixed telephone (hot line) is provided
3. Station is provided with Auto telephone connected with Railway Exchange.
4. BSNL telephone is provided.
5. The station is connected toJHARSUGUDA-BALANGIR control circuit by control telephone.
6. Station to station 25 Watt VHF communication is provided.
7. Telephone is provided between Station and both end crank handle locations.
8. Telephone is provided between Station and L.C Gate Lodge at KM 557/15-17(UP),557/18-16(DN)&KM554/17-19(UP),554/20-18(DN).
9. Telephone is provided between Station and TPC.

NOTE: -

1. For obtaining Line Clear, VHF should be used as a last alternative and not as a sole means of communication.
2. VHF and Walkie-Talkie sets should not be used for unnecessary discussions with Loco Pilots, Guards or any other staff.
3. The on duty SM shall use the above electrical communication instruments stated in Para-5.0 from item No. (1) to (6) 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

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

6.0 SYSTEM OF TRAIN WORKING: -

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

6.1 DUTIES OF TRAIN WORKING STAFF: -

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

6.1.1 TRAIN WORKING STAFF: -

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

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Sl. No	Designation	Roster	No. of staff in each shift	Hrs. of Duty.
1.	SS ----	Continuous	01	09 hrs.
2.	SM-----	Continuous	01	08 hrs.
3.	TPM-A/TPM-B	Continuous	01	08 hrs.
4	GK/Sr GK	E.I	01	12hrs

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

6.1.2 **RESPONSIBILITY OF ASCERTAINING CLEARANCE OF THE LINE: -**
The SS/SM on duty is responsible to ascertain the clearance of the nominated line between outer most facing points of concerned line as per GR.14.10.

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

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

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

The declaration shall be renewed in the following cases: -
(i) Whenever there is a change in the Station Working Rules.
(i) For any staff who have not worked at the station or were away from the station for a period of 15 days or more.

6.2 (A)**CONDITIONS FOR GRANTING LINE CLEAR: -**

[A] For double line Section- (SLRA SBP & SLRA-SSN)
Before granting line clear for a train, the SM on duty shall ensure that-
i) The whole of the last preceding train has arrived complete.
ii) All necessary signals have been put back to 'ON' behind the said train.
iii) The line is clear up to the point No.102 or 101.

[B] For Single Line Section- (SLRA- SBPY)
I) The whole of the last proceeding train has arrived complete.
II) All the necessary signals are put back to 'ON' behind the said train.
III) Block section is clear of trains running in the direction towards the block section for which such line clear is being given.

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IV) The line is clear up to the advanced starter of station nearest to expected train. (i.e. Adv.Starter No-81).

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

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

6.2.1.2 **RECEIPTION OF TRAIN IN BLOCKED LINE. GR 5.09 & SR 5.09.01**

Whenever trains are to be admitted on an obstructed line the SM on duty shall take off calling on signal. But during failure of calling on signal he 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 points of concerned route vide SR 3.69.03.

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

6.2.1.3 RECEIPTION OF TRAIN ON NON-SIGNALLED LINE

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

i. The train is brought to a stand at the first stop signal.
ii. The line on which it is intended to receive the train is clear up to the trailing points or up to the place at which the train is required to comes to a stand.
iii. All points over which the train has to pass are correctly set, the facing and trailing points are clamped and padlocked.

The Loco Pilot is authorised to pass the approach stop signals at " ON" through a written authority T/369(3b) [Refer GR 5.10].

6.2.1.4 DESPATCH OF TRAINS ON NON-SIGNALLED LINE :

Whenever a train is to be dispatched from a Non- signaled line, a starting order on form T-511 shall be given to the Loco-Pilot to start from the non-signalledline.[Refer SR 5.11.1].

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

N/A

6.2.1.6 SPECIAL RESTRICTIONS:

(I) The Over run line shall not be obstructed for stabling vehicles or harboring an engine. If it is obstructed through any accident or for any cause it ceases to be a substitute for the adequate distance, in that case the train shall be passed over loop line as per Subsidiary Rule 3.40.02(a).

(II) Shunting shall not be permitted at both end of the yard unless the engine is leading towards the falling gradient. GR 5.20 and SR's thereto apply at this station.

(III) No load shall be stabled on non isolated lines without live locomotive is attached. Otherwise vehicle shall be secured as per Railway Board letter no. 2012/Safety (S&R)/19/I dtd. 04.12.2018.

6.2.1.7.SPECIAL INSTRUCTIONS:-

(I) CSL of line no.3 is more than 800. To avoid premature release of overlap, overlap will initiate only when rear portion point zone track circuit is clear and when L3T3/L3T2 is occupied in UP direction.

6.3 CONDITIONS FOR TAKING 'OFF' APPROACH SIGNAL: -

Reception of trains is governed by General Rule 3.40, SR 3.40.01, SR 3.40.02, 3.42.03, 3.42.04 and other relevant provisions of General and Subsidiary Rules, Block Working Manual and Station Working Rules of the station.
Adequate distances to be kept clear vide General Rule 3.40 (3) 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: -

Sl. No.	UP TRAIN			DN TRAIN	
		FROM	TO	FROM	TO
1	Line No. 1 (Common Loop)	Foot of the UP starter signal No.33	Up to the end of ORL (DS-112)	Foot of the DN starter signal No. 32	DN advanced starter signal No.80 or up to the end of ORL (DS-123).
2	Line No. 2 (DN Main)	----	----	Foot of the DN line starter signal No.34	Up to DN advanced starter signal No.80
3	Line No. 3 (UP Main)	Foot of the UP starter signal No.29	Up advanced starter No 81 / 83.	---	---
4	Line No. 4 (Common Loop)	Foot of the UP starter signal No.27	UP advanced starter signal No.81/83.	Foot of the DN starter Signal No. 38	DN advanced starter signal No.80 or up to the end of ORL.
5	Line No. 5 (Common Loop)	Foot of the UP starter signal No.25	Up to the end of ORL or UP advanced starter signal No.81/83.	Foot of the DN starter Signal No. 40	DN advanced starter signal No.80 or up to the end of ORL.

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6	Line No. 6 (UPLoop)	Foot of the UP starter signal No.23	Up advanced starter No 81 / 83 or Up to the end of ORL.	---	-----
7	Line No. 7 (UPLoop)	Foot of the UP starter signal No.21	Up advanced starter No 81 / 83 or Up to the end of ORL.	---	-----

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

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

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

B. TAKING OFF CALLING ON SIGNAL

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal/Starter signal, occupying the Track Circuit in rear of the signal. When a train occupies the track 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 signal.

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

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. (GR3.47)**

(i)	While receiving an UP train on Line No.1 setting overlap to overrun line.	Reception of a DN train on Line No.4&5 setting overlap to ORL from SBPY and SBP end. or dispatching of an UP train from the Line No.3/4/5/6/7
(ii)	While receiving an UP train on Line No.1 set to M/L (SBP end)	Reception of a DN train on Line No.4/5 setting overlap to ORL from SBPYend. or dispatching of an UP train from the Line No.4/5/6/7towards SBPY.
(iii)	While receiving an UP train on Line No.3 set to M/L (SBP end)	Reception of a DN train on Line No.4/5 setting overlap to ORL from SBPY end and Reception of a DN train on Line No.1/2 from SBP end or dispatching of an UP train from the Line No.4/5/6/7 towards SBPY.
(iv)	While receiving anUP train on LineNo.4.	Reception/ dispatching of a DN train on Line No.1/2. And dispatch of an UP train from line No.1 & 3 to SBP.
(v)	While receiving an UP train on Line No.5 setting overlap to over run line.	Reception/ dispatching of an DN train on Line No.1/2 and dispatch of an UP train from line No.1, 3 & 4.
(vi)	While receiving an UP train on Line No.6 set to ORL.	Reception/dispatching of a DN train on Line No.1/2 and Reception/dispatching of a DN train on Line No.4/5 setting through upto Adv. Starter Signal No. 80and dispatch of a UP train on line No.1,3,4&5.
(vii)	While receiving an UP train on Line No.7 set to ORL.	Reception/ dispatching of a DN train on Line No.1/2/4/5 and dispatch of an UP train from line No.1, 3, 4, 5, 6.
(viii)	While receiving a DN train on Line No.1 from SBP end set to ORL.	Reception/ dispatching of an UP train from Line No.3/4/5/6/7 or dispatching of a DN train from the Line No.2/4/5.
(ix)	While receiving a DN train on Line No.1 from SBPY end set to ORL.	Reception of an UP train on Line No.5/6/7 set to ORL & dispatch of a DN train on line No.2/4/5 .
(x)	While receiving a DN train on Line No.2 from SBP end.	Reception/dispatching of an UP train from Line No.3/4/5/6/7.
(xi)	While receiving a DN train on Line No.2 from SBPY end.	Reception of an UP train on Line No.5/6/7 set to ORL.
(xii)	While receiving a DN train on Line No.4 from SBP end set to ORL.	Dispatching of a DN train from the Line No.1/2 Reception of UP train on Line No.1.
(xiii)	While receiving a DN train on Line No.4 from SBPY end set to ORL.	Dispatching of a DN train from the Line No.1/2. Reception/despatch of an UP train on Line No. 1/3

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(xiv)	While receiving a DN train on Line No.5 from SBP end set to ORL.	Reception of an UP train on Line No. 1. Dispatching of a DN train from the Line No.1/2/4.
(xv)	While receiving a DN train on Line No.5 from SBPY end set to ORL.	Reception/Dispatch of an UP train on Line No. 1/3. Reception/Dispatch of a DN train on Line No. 1/2. Dispatching of a DN train from the Line No.4.

Rules laid down in GR3.47 and SR 3.47.01 shall be followed.

6.5 COMPLETE ARRIVAL OF TRAINS: -
(Rule no. GR 4.16 & SR 4.17.01(a)(b)(c)(iii) (iv), GR 4.17.02, GR 14.10)

a**) STAFF RESPONSIBLE TO VERIFY COMPLETE ARRIVAL OF TRAIN: -**
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 in VDU. After the whole train clears the block section, 'GREEN' indication appears on the axle counter indication in VDU. 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 VDU.

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

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

6.6 **DESPATCHING OF TRAINS: -**
Dispatch of trains are governed by General Rules 3.36, 3.38, 3.39, 3.42, 5.11 & 8.01 Subsidiary Rule 3.36.04(b), 3.42.04, SR 14.08 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 SM 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, ensure closure of LC Gate in section and then shall take off the concerned route starter and Advanced starter signal by operating concerned VDU buttons. After observing the 'OFF' aspect of the route starter and advanced starter signals the Loco Pilot shall start his train.

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

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

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

If a signal once taken 'Off' for reception/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 procedure detailed in Para 6.6, 6.6.1 above and General Rules 4.17, 4.42 and Subsidiary Rules 3.36.04(b)(i) 3.42.02(a)(iv), shall be observed. The SM is responsible to observe/watch the condition of the vehicles on a train and shall wave green hand signal horizontally as per Subsidiary Rule 4.42.02(b)(i) until anything wrong is noticed on train. For this purpose the SM on duty shall stand in such a position that a clear view of the passing train is seen by him and that his hand signals can clearly be seen by the Loco Pilot and Guard of the train. He shall depute his point's 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/driver of the train in case of observing any unsafe condition/abnormalities of the train. He shall also report to the SM on duty for taking further suitable action in terms of SR 4.42.02(d).

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

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

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

6.8.1 **PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF A SIGNAL AND INTERLOCKING INSTALLATION**:-

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

6.8.2 **TRACK CIRCUIT:**

In the event of failure of track circuit in the yard concerned signal shall be suspended and trains shall be admitted on calling-on signal. If calling-on signal fails then train shall be piloted 'IN'. Before piloting a train in to the yard the clearance of the track must be ensured by physical verification.

6.8.3 **AXLE COUNTER:**

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

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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. 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:**

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 in 'Line clear' position, the concerned advanced Starter must also be treated as suspended.

During failure of Block Instrument between SLRA- SBPY the authority will be Paper Line Clear Ticket (T/C 1425) with Identification number & Private Number issued from the Station in advance.

During the failure of Block Instrument between SRLA-SBP & SLRA-SSN, the authority will be T/369(3b) with identification number and Private Number issued from the station in advance written both in figure and words.

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

UP and DN Home signals are electrically interlocked with respective block instrument which can be normalised from 'TRAIN ON LINE' to 'LINE CLOSED' position after complete arrival of trains, when the corresponding Home signals are in the 'ON position. However, the Home signals can be taken off in case of failure of the block instruments.

6.8.6 **DEFFECTIVE INTERLOCKING:**

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

6.8.7 **DEFFECTIVE/DAMAGED POINTS:**

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

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

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6.8.8 **RECEPTION OF A TRAIN ON BLOCKED LINE:**
Whenever trains are to be admitted on an obstructed line the Calling-on signal may be taken off. If calling-on signal failed then the SM on duty shall authorize the on duty TPM with form T/509 indicating the reason for such admission the line number and the nature of obstruction on that line. Before handing over the authority, the SM on duty shall ensure the correct setting clamping and padlocking of both facing ad trailing end of the concerned route vide SR 3.69.03. A stop hand signal shall be exhibited by the SM on duty at a distance of not less than 45mts. from the point of obstruction to indicate to the Loco pilot as to whose the train shall be brought to a stand (GR 5.09 & SR 5.09.01).

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

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

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

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

The following precautions must be taken:

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

7. BLOCKING OF LINES: -

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. 'Line Block' is to be activated on VDU by SM on duty following procedures as laid down in paraNo. 6.2.1.1. 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 3.36.03(b), GR 5.23 and SR 5.23.01(a)]

LINE BLOCK FEATURE IN VDU –
Details of the operation are given in Appendix 'B' of SWR.

7.1 **STABLING OF VEHICLES ON RUNNING 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 rear should immediately be

set against the blocked line except during shunting movement. Whenever a running line is blocked a clear mark in 'RED' ink shall be made immediately in Train Signal register. The time and number of running line on which vehicles are stabled are to the recorded in stable load register. A record their of shall be rule in lie station diary vide SR 5.23.01(a), (c) &(2).

7.2 **SECURING OF VEHICLES:-**

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

NOTE: Special care shall be taken to secure special type vehicles fitted with roller bearings while standing in siding or on running lines. A stabled load register is to be maintained shift wise.

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

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

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

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

d) These precautions shall be taken in addition to the observance of other precautions as contained in SR 5.04.01 & 5.23.01.

e) **SAFETY POINT ALARM UNIT**:-

Safety Point Alarm Unit alerts the station master when point is not set against the occupied line within 3minutes after arrival of the train on the berthing track. It prevents collision of trains in case of mistake by one loco pilot. It monitors the status of lines and their points continuously and generates audio-visual alarm. It is provided in the SM room and connected to station data logger. Visual alarm is given by lighting LED for each line. Audio alarm is also generated simultaneously. After Acknowledgment button is pressed by SM, announcement is stopped but LED is continued to be lit. LED extinguishes when points are correctly set by SM.

7.4 LOADING AND UNLOADING OF VEHICLES ON RUNNING LINE:-

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

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

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If the stations are on gradients, the rake should be properly secured as detailed in SR 5.23.01.During the time of loading / unloading, the station master shall ensure isolation of the lines(s) as detailed in SR 3.51.06.

8.0 **SHUNTING: -**

8.1 **GENERAL PRECAUTIONS**:-

Shunting shall be performed in terms of General Rules 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16, 5.17, 5.19, 5.20 to 5.23, 8.09, 8.10, 8.12, 8.13, 8.14, 8.15 and Subsidiary Rules thereto. The Guard/Asst. Guard/SS/SM/TPM on duty is authorized to supervise shunting operation. During non-signaled movement the authority for shunting is shunting order (T-806) to be issued by the SM on duty, which shall be withdrawn after completion of shunting, or in need when train movement is involved to receive/dispatch trains on the adjacent line. The same shall be cancelled and pasted to its record foil. While issuing shunting authority to train staff clear instructions and limit up to which shunting is to be performed should be correctly mentioned. The staff supervising shunting shall ensure correct setting of points, clamping and pad locking of points, if necessary. Normally back shunt signals shall be used for shunting operation.

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

Shunting in the face of approaching train is prohibited.

8.3 **PROHIBITION OF SHUNTING AND ANY SPECIAL FEATURE: -**

a) Hand Fly & Loose shunting is not permitted at both end of the yard.
b) SR 4.48.01 is applicable to this station.

8.4**SHUNTING ON SINGLE LINE (SLRA-SBPY):**.

(i) If the necessary signals are kept at 'ON' shunting may be carried on within the station section provided the block section is clear of approaching train.
(ii) The line outside the station section and upto the Home Signal shall not be obstructed unless a Railway Servant specially appointed on his behalf by the Station Master on duty who is the in-charge of the operations and unless the block section into which the shunting is to take place is clear of approaching train and all relevant & necessary signals are kept at ''ON'' position (GR 8.12).
(iii) The line outside the first stop signal shall not be obstructed unless line has been blocked back.

8.5**SHUNTING ON DOUBLE LINE:**

(i) When the line clear has been given no shunting shall be permitted in the block section in rear Vide GR 8.06 (1).
(ii) Shunting or obstruction for any other purpose shall not be permitted in the block section in rear unless it is clear and is blocked back Vide GR 8.06(2) and BWM 6.15.
(iii) Shunting or obstruction for any other purpose shall not be permitted in the block section in advance unless it is clear and is blocked forward Vide GR 8.06(3) and BWM6,15.

8.6**SHUNTING WITHIN THE STATION SECTION:**

(I) when there is non- signaled movement T/806 shall be issued and points(both facing & trailing) shall be clamped and padlocked.

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

9.0 **ABNORMAL CONDITIONS**:

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

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

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In the event of suspension of Block Instrument BWM Chapter III of part-I, Chapter IV and V and during partial failure of other available means of communications, trains will be worked in terms of Subsidiary Rule 6.02.06 and Chapter-III of Block Working Manual.

[II] **DESPATCHING OF TRAINS ON AN AUTHORITY OF BLOCK TICKET**: -

In case, it is necessary to allow a train into an obstructed block section due to engine failure, obstruction or accident, a block ticket shall be issued in terms of SR 6.02.05 Absolute Block System on the affected block section shall be suspended and concurrence of the SM at other end shall be obtained and recorded in caution order register and train signal register SM's diary.

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

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

On arrival at the station the block ticket shall be collected with necessary endorsement from Driver/Guard and cancelled and pasted to its record foil shall be sent to the issuing station for cancellation.

In case of accident/engineering block assurance from SE/P.WAY concerned shall be obtained that the line is safe for movement of trains before resumption of normal working. When the obstruction is removed and assurance in writing is obtained from SE/P.WAY concerned or Guard/Driver the SM on duty may resume normal working after exchanging proper messages supported by Private Number.

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

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

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

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

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

[VI] **FAILURE OF MTRC**- Not Applicable.

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

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

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

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

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

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

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

In the event of total interruption of communication occurring between SLRA-SBPY Stations, i.e when line clear cannot be obtained by one of the following means stated in order of preference viz

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

and actions shall be taken as per SR 6.02.04. The train which is to be despatched to the affected section will be stopped and the Driver and Guard of the train shall be informed about the fact.

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

(i) An authority to proceed without “Line Clear”.
(ii) 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 (T/B409).
(iii) Authority to pass the Last Stop Signal at ‘ON’ position.
(iv) A “Line Clear” enquiry message (T/E602) asking “Line Clear” for the awaiting train (T/F602).
(v) 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 Driver 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.

9.1.B **TOTAL FAILURE OF COMMUNICATION BETWEEN SLRA-SSN & SLRA-SBP (DOUBLE LINE SECTION):**

In the event of total failure of communications between SLRA-SSN & SLRA-SBP i.e. when line clear cannot be obtained by any one of the following means stated in order of preference viz.

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

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

(i) Each train before being allowed to enter into the Block Section should be stopped and the Guard and Driver of the train apprised of the situation.
(ii) The SM will hand over an authority. [T/C 602] for working of train during total interruption of communication to the Loco Pilot of each train which shall include-
a) Authority to proceed without 'Line Clear.
b) 'Authority to pass the Last Stop Signal at its "ON" position.
c) A caution order restricting the speed to 25KMPH by day when view ahead is clear and 10KMPH by night or when view ahead is not clear.

(i) No train shall be allowed to enter the Block Section until there is a clear interof 30minutes between the train about to leave and the train, which has immediately proceeded.
(ii) Fixed signals except the last stop signal may be taken "OFF" for the dispatch of the train and for the reception of the train at the next block station, reception signals may be taken 'OFF' only after the train has been brought to a stand outside it.
(iii) On arrival at the next block station the driver shall hand over the authority to proceed without line clear to the SM on duty who will preserve the same for further inspection.
(iv) Before resuming normal working when any means of communication is established. SM of either end must satisfy that there is no train in the block section. [Refer SR 6.02.03].

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

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

(a) Before introducing single line working the SM on duty must satisfy that the line on which single line working will be introduced is clear and free from all obstructions.
(b) The Lock and Block instrument will be suspended. The Commutators of Lock & Block Instrument will be kept on "Train on line position".
(c) SM proposing single line working must issue a message with

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

(d) SM on duty at the other end of the block section will acknowledge the message and confirm the same by a Private Number.
(e) After obtaining line clear for the train from the advance station, the Driver must be given as-.

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

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

(ii) A pilot memo T/369(3b) to pass the last stop signal at its 'ON' position. The approach stop signals at the station in advance may be taken "OFF". In case a train proceeding on wrong line,

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

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

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

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

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

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 tickets, 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 driver of the previous train by the official –in-charge at the site and kept in the personal custody & shall be kept until the arrival of the next train and such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.
e) SM will suspend the Absolute Block System of Working and both SMs concerned should arrange for running of trains on the authority of Block Ticket
f) SM at the dispatching end will hand over to the driver the block Ticket as the authority which shall include:

i. Caution Order: Existing Speed Restriction/s shall be indicated in the Caution Order portion. The Speed Restriction to 15 KMPH during clear visibility and 10 KMPH when visibility is obstructed shall be clearly indicated.
ii. An authority to pass the Stop Signal at "ON" position

g) Before resumption of normal working a message between the SMs of the concerned stations shall be exchanged with private number.[Ref SR 6.02.05(d)(vi)]

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

10 **VISIBILITY TEST OBJECT**: -

The lights of loop Line No.1 starters on both ends are nominated as visibility test object. SM on duty will test the visibility during thick and foggy weather and if visibility is impaired, he will work as per GR 3.61 and relevant SRs.

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: -**

In order to indicate to the Drivers of approaching trains the location of signal during thick, foggy and tempestuous weather or during dust storm, the SM on duty shall arrange for fog signalling in terms of General Rule 3.61 and Subsidiary Rules thereto. Assurance of the staff shall be taken

in the Fog Signal Register in the month of October every year as token of their having knowledge of Fog Signalling Rules and their use.

Fog signalmen shall be detailed for duty at stations being recruited partly from the station traffic staff and partly from Engineering Gang man and must not be substitutes or casual labour but regular employees of the railway

STATION DETONATOR REGISTER (OPT/124)

A Register regarding detonator is maintained at the station.

(a) **INSTRUCTIONS:**

This register contains the following parts.

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

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

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

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

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

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

CERTIFICATE:-

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

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APPENDICES

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

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APPENDIX – 'A'

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

1.0 GATE WORKING INSTRUCTIONS OF "C" CLASS TRAFFIC INTERLOCKED LEVEL CROSSING GATE AT KM 554.180(554/17-19(UP),554/20-18(DN)) (JT-23) IN BETWEEN DN ADVANCED STARTER SIGNAL AND SHUNT SIGNAL SH5 OF SARLA STATION.

1.1 **GENERAL INSTRUCTIONS:-**

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

1.	Number of Level Crossing Gate: -	JT-23.
2.	Engineering or Traffic Gate: -	Traffic.
3.	Under control of Station Master/PWI:-	SM/SLRA.
4.	Location KM	554/17-19(UP),554/20-18(DN
5.	At. Station: -	SLRA.
6.	In between stations: -	SLRA-SSN
7.	BG/MG/NG: -	BG.
8.	Single line/Double line/Multiple line: -	Double Line.
9.	Normal Position: -	Open to road traffic.
10.	Interlocked/Non Interlocked: -	Interlocked.
11.	Means of interlocking: -	EKT
12.	Provision of Gate signal at Kms.i)UP line-	NIL ii)DN line-NIL
13.	Signalling arrangement: -	Stn stop signals.
14.	Means of Communication:	Telephone Connection with SM/ SLRA.
15.	Width of level crossing Gate: -	5.5 m.
16.	Type of road. (NH/SH/Others): -	Others (Village)
17.	Name of Road: -	Pardhiapali road.
18.	Metaled/NonMetaled:	Non-Metaled
19.	Approach Road: -	KCH.
20.	Width of the road: -	5.5 m.
21.	Angle of road crossing (In case of the skew Gates)	NIL.
22.	Road gradient (If any)	i) East/North side: Level ii) West/South side: Level
23.	Road alignment (Straight/Curve): -	i)East/North side-Straight ii) West/East side:-Straight
24.	Provision of height gauges: -	Provided.
25.	Type of Barriers: -	Electrical operated Lifting barriers.
26.	Length of checkrails: -	7.5 Meter.
27.	Road surface in between Level Xings Gates	Cement Concrete Blocks
28.	Length of speed breakers: -	5.5 Meters
29.	Road signs: -	Available
30.	Speed breaker indication board: -	Provided.
31.	TVU: -	7313 on 02/2022.
32.	Census next due on: -	02/2025.
33.	Demarcation for placement of Detonators: -	Displayed.
34.	No. of Gateman working: -	02(12 Hours shift).
35.	Nearest Railway Medical Assistance: -	Sambalpur.
36.	Nearest Private Medical Assistance available (if any)	Sambalpur.
37.	List of equipment available Yes//No: -	Yes.

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1.2 **THIS GATE IS PROVIDED WITH EQUIPMENTS AS FOLLOWS**:

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

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

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

1.4 **DUTIES OF GATEMAN**:

1. **ALERTNESS:** The Gateman on duty shall be alert. He should be prepared to take immediate action, when danger is apprehended. Keys of the Gate shall be in his personal custody.
2. **POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS**:
   During passage of trains, Gateman will stand in the manner indicated below:

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

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ii) In daytime, Gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.
iii) In nighttime, Gateman shall hold lighted hand signal lamp with white light facing the track.
iv) He shall keep the whistle slung around his neck from a cord.

3. **ROUTINE DUTIES OF GATEMAN**:

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

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4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

ii) He shall take prompt action to warn the driver/guard of the passing train by showing red flag by day and red light by night.

iii) He shall simultaneously try to draw the attention of the Loco Pilot/guard by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.

iv) If driver/guard fails to take notice, Gateman shall immediately inform the SM on duty to take appropriate action, under exchange of private number.

v) In case of train parting, Gateman shall not show stop hand signal but shall show prescribed signal for train parting.

vi) He shall endeavor to attract the attention of the Loco Pilot /Guard by whistling continuously, shouting, gesticulating, and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.

vii) In case the train does not stop, Gateman shall immediately inform the SM to take appropriate action, under exchange of private number.

5.ACTION IN EMERGENCY AT THE LEVEL CROSSING:

i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals, if any in the 'ON' position.

ii) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, regarding the defects/obstructions at the gate, under exchange of private number.

iii) If there is no response from the Station Master after or three attempts he shall first protect the gate and then inform on phone.

B **. Electrified Section**:

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

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

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

a) **ON DOUBLE LINE SECTION:**

i) If both lines are obstructed the gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.

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

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

iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 on BG from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus 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.

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

vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.

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

6) **Other actions to be taken by Gateman**:

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

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

(iii) He shall note down the particulars of the road vehicle, vehicle number, name of the driver, owner and relay these details to the SM / SLRA 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	800M
	Left	800M
DN	Right	800M
	Left	800M

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

iii) Periodical Census of traffic has been taken and the latest TVU is 7313 on 02/2022.

1.6 **SPECIAL INSTRUCTIONS**-

1 **MODE OF OPERATION:**-

This interlocked L.C. Gate is situated at the SSN end of the yard in between DN Advanced starter signal and DN starter signal. This gate is interlocked with station stop signals. Telephone connection is provided between the L C. gate lodge with SM office SLRA Station. The level crossing gate is of lifting barrier type and motor operated by means of HAND GENERATOR/MOTOR from the gate panel provided at the gate lodge. The normal position of the gate is open to road traffic.

Before taking off reception/departure signals the SM on duty at SLRA shall inform the gate man about the train number & directions and advise him to close and lock the gate.The gate man, after satisfying himself that the level crossing is clear of all obstructions shall sound the hooter and close the barriers of the LC gate.For closing the barriers, press the CLOSE push button (YELLOW) continuously provided on the panel till the barriers come down and get locked in the locking device.As soon as the barriers reach the closed position AMBER LEDs glow (provided in panel) and on getting locked, GREEN LEDs will glow indicating that boom has been locked. In case GREEN LED for the connected barrier is not glowing after closing the gate, however, the AMBER LEDs are glowing then the emergency push button can be only pressed for locking the booms for taking of the signals.

The emergency locking operation should be done only after physical verification of locking at both the lock posts.After the LC gate is closed and locked against road traffic Key ‘Q’ can be extracted from EKT-1. Key ‘Q’ thus extracted is inserted in EKT-2 and transmitted electrically to

VDU in conjunction with switch GS (gate slot) reversed.This releases concerned UP/DN signals respectively. On doing, so SM on duty will get the 'Yellow' flashing and GFRR indication on the VDU.

After passage of train, on duty SM/SLRAstation shall grant permission and transmit the Gate key to the gateman by click on the 'Trans' control. The yellow indication starts flashing at VDU and gate man will get red indication near the EKT which indicates that the key 'Q' can be extracted from EKT-2 after turning the GS switch to normal position. Then Key 'Q' is extracted from EKT-2 and inserted in EKT-1 and turned.

For opening the LC gate barriers press the OPEN push button (GREEN) continuously till both the barriers start opening and reach to the (fully opened)vertical position from horizontal position. Motors will cut off after the booms achieve the desired vertical angle.

In case of emergency Key 'K' (chained with Boom Crank Handle) is extracted from EKT-3, Electro-Mechanically free, provided at Gate Lodge (in a locked and sealed red box). The crank handle can be used for manual operation of individual lifting barriers by crank handling in case of emergency.

Extraction of Key 'K' shall put back all the relevant signals at 'ON'. Switch GS (Gate Slot) is provided in the gate lodge to put back the concerned UP & DN signals to 'ON' by the gateman in case of emergency.

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

2. OPERATION OF ELECTRIC LIFTING BARRIER DURING 24V DC POWER FAILURE

(Hand Generator Mode-During Power Failure)

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

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

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

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

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

INDICATIONS PROVIDED ON CONTROL PANEL FOR OPERATION OF ELECTRICAL LIFTING BARRIER

1. RED colour emergency push button which is to be pushed in case any or both of the booms do not get locked (GREEN indicators do not light up).It will be used only after physical verification of locking at both the lock posts.

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2. LED INDICATOR (AMBER) LAMP (At the Top) which glows when power supply is available. NO GLOW will indicate that hand generator has to be used. It glows continuously.
3. SELECTOR SWITCH which allows you to choose operation on Manual or Auto mode.
4. LED INDICATOR (AMBER) LAMP (2 nos) - Glows when the plunger of the barriers has been detected. Meaning thereby that the barrier has reached its Horizontal position.
5. YELLOW COLOUR push button which has to be kept pressed till the barriers reach the horizontal position.
6. LED INDICATOR LAMP (GREEN) (2 nos) glows when the barrier has been securely LOCKED. The lamp will turn off as soon as the lock has been opened.
7. GREEN COLOUR push button which has to be kept pressed till the barriers reach the fully open position.
8. Mode Selector Switch provided in Operating Panel to be kept either in Auto position or Manual position as per requirement. It is only to be kept in Manual position for using hand generator when power supply fails or else it is to be kept in AUTO position.
9. 'Power' indicator LED will glow continuously if power supply is available.

Gate is locked when a signal is taken off. Locking of the gate is released only when the train movement for which Signals are taken off is completed. For emergency opening of the LC Gate before completion of train movement or if the route given for a train has not been released, then emergency gate release operation has to be initiated in the following manner. Signal cancellation button and the concerned signal button has to be pressed. Then emergency gate release button along with control 35 button has to be pressed. A flashing Red indication will appear on the top of the emergency gate release button. When the Gate lock indication disappears (i.e. after 120 seconds) gate key can be transmitted by pressing gate key and group trans button simultaneously for opening the gate.

3. WORKING OF SLIDING BOOM IN CASE FAILURE/DAMAGE OF LIFTING BARRIERS:

In case of failure of lifting barriers of level crossing gate due to failure/damage of gate boom, emergency sliding boom can be used as auxiliary gate without piloting IN and OUT of train.

INSTRUCTIONS FOR OPERATION OF SLIDING BOOM:

In case of failure of lifting barriers of level crossing gate due to failure/damage of gate boom, emergency sliding boom can be used as auxiliary gate without piloting IN and OUT of train.

4. INSTRUCTIONS FOROPERATION OF SLIDING BOOM:

1. Key 'S' when extracted from lock free EKT-5, makes road signals danger & activated road hooter.key 'S' unlocks the sliding barrier-1.
2. Sliding barrier-1 to be rolled across the road upto the lock post. key(chained with barrier)releases the lock plunger & key 'SB-1'.key SB1 when extracted lock the sliding barrier -1.
3. Similarly after unlocking the pad lock sliding barrier-2 to be rolled across the road upto the lock post. key (chained with the barrier) along with the key SB-1 inserted releases the lock plunger & key SB-2.key sb-2 when extracted lock the sliding barrier-2 & key 'SB'-1.
4. Finally released key 'SB2' is to be transmitted electrically to SM through EKT-4 in conjunction with gate 'GS' reversed for taking 'OFF' concerned signals.

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

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5. **INTIMATION TO GATEMAN-**

i) Before taking off reception/departure signals SM/SLRA shall inform the gateman, the number, description, and direction of the train.
ii) The gateman shall close the gate and transmit the key to the SM/SLRA.
iii) The reception/departure signals will then be taken 'OFF'
iv) In order to ensure that road traffic is not held up for a long time, the SM/SRLA must ensure that the train is ready for departure in all respects before he advises the gateman for closing the gate.
v) When a train has to be piloted to and from the station yard or any shunting movement is to be done, the staff deputed to pilot the train to perform the shunting across the gate shall be personally responsible to ensure that the gate is closed against road traffic before allowing any movement across the gate.

6. **FAILURE OF TELEPHONIC COMMUNICATION:**

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

i) Station Master on duty/ SLRA shall send written advice to the gateman through the porter with full details of number, description and direction of the train.
ii) Gateman on receipt of such advice shall close the gate and transmit the key to the SM/SLRA, 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/ SLRA will issue written authority to the train driver to pass the signal at 'ON' position.
iv) In addition Station Master/ SLRA shall also issue a caution order advising the Loco Pilotto whistle continuously and approach the gate cautiously.
v) The train driver shall be instructed to pass the gate cautiously, on before signaled by the gateman. If hand signal is not seen, driver should be prepared stop short of the gate and ensure that gate is closed following GR.3.73.
vi) In case of an approaching UP train, the Station Master/ SLRA shall advise the Station Master/SSN, under exchange of private number, that the telephone at the gate has failed.
vii) The station Master/ SSN shall then issue a caution order to the Loco Pilot before dispatching an UP 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.

7. **FAILURE OF LIFTING BARRIERS OF GATES**:

i) When the gate cannot be closed due to failure of lifting barriers, the gateman will immediately inform, the SM/SLRA, under exchange of private number, and ensure the lifting barriers of gate do not foul the track.
ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
iii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.

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

v) Station Master on duty/ SLRA shall issue a caution order to the Loco Pilotof a departing train.

vi) Station Master on duty/SLRA shall also advise the station Master/ SSN at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilotbeforedispatching an UP train into the block section from his end.

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

viii) Normal working will resumed only after maintenance staff repair the barriers 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.

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

i) If the gate key cannot be extracted from the key transmitter, then gateman must immediately inform the SM/SLRA on duty on telephone, under exchange of private number.

ii) Thereafter, the gate must be treated as non – interlocked and procedure for reception/ despatch of trains as prescribed for non – interlocked gates, should be adopted. All UP trains shall be piloted in and DN trains shall be piloted out.

iii) SM/SLRA on duty shall issue a caution order to the Loco Pilot of every DN train.

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

v) Station Master/ SLRA will advise S&T staff responsible for maintenance of key transmitter to rectify the defect at the earliest.

vi) Normal working will resumed only after S&T staff repairs the key transmitter and issue reconnection/fit memo for the same.

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

i) If the gate key cannot be extracted from key transmitter then gateman must immediately inform the SM/SLRA on telephone, under exchange of private number.

ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/despatch of trains as prescribed for non-interlocked gates should be adopted.

iii) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass the trains on hand signals.

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

v) He shall also advise the station Master/SSN at the despatching end, under exchange of private number, to similarly issue a caution order to the driver before despatching an UP train into the block section from his end.

vi) Station Master/ SLRA will advise S&T staff responsible for maintenance of key transmitter to rectify the defect at the earliest.

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

10. **OBSTRUCTION AT THE GATE**:-

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

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

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

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

vii) He shall note down the particulars of the road vehicle, name of the driver, owner and reply these details to the SM/SLRA, who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.

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

ix) After the track has been cleared of all obstructions the gateman shall resort to sliding boom operation of sliding boom working also fails he shall inform the SM/SLRA accordingly, under exchange of private number.

x) Station Master/ SLRA shall then issue a caution order and T/369(3b) to drivers of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
Station Master SLRA shall also advice SM/SSN to issue Caution Order to all trains from his end.

xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and they're after exhibit green hand signal, if the gate is not obstructed.

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

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

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

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

12. ACCIDENTAL ROLLING DOWN OF TRAINS:-

When the gateman seen that a train is rolling down or immediately on receipt of the information about accidental rolling down of the train, the Gatemanshall :-

(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 GENERAL RULES, SUBSIDIARY RULES, AND BLOCK WORKING MANNUAL AND OPERATING MANNUAL.

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2.0 GATE WORKING INSTRUCTIONS OF "C" CLASS, ENGG., INTERLOCKEDD LEVEL CROSSING GATE AT KM 557/15-17(UP),557/16-18(DN) (No.JT-24) BETWEEN SLRA - SBP DOUBLE LINE AND SLRA-TRACK CIRCUIT SINGLE LINE SECTION.

2.1 GENERAL INSTRUCTIONS:

2.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

1.	Number of Level Crossing Gate: -	JT-24.
2.	Engineering or Traffic Gate: -	Engineering.
3.	Under control of Station Master/PWI:	SSE(P.Way).
4.	Location KM	557/15-17(UP), 557/16-18(DN)
5.	At. Station: -	------
6.	In between stations: -	SLRA-SBP/SBPY.
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: -	Interlocked.
11.	Means of interlocking: -	Gate Signals.
12.	Provision of Gate signal at Kms.	DN gate Stop Signal at Km. 557/0-1&
13.	UP gate Stop Signal atKm .557/4-5	
14.	Signalling arrangement: -	MACLS
15.	Means of Communication:	Telephone Communication from Gate Goomty with SM office/SLRA
16.	Width of level crossing Gate: -	7.5 Meters.
17.	Type of road. (NH/SH/Others): -	Others (Village)
18.	Name of Road: -	Sankarma Road.
19.	Metaled/Non Metaled:	Metaled.
20.	Approach Road: -	Metaled
21.	Width of the road: -	5.50 M.
22.	Angle of road crossing (In case of the skew Gates)	--.NIL
23.	Road gradient (If any)	i) North/East side- Level South/West side- Level
24.	Road alignment (Straight/Curve): -	i) North/East side.-Curve South/West side. -Curve
25.	Provision of height gauges: -	Provided
26.	Type of Barriers: -	Winch operated Lifting barriers.
27.	Length of checkrails: -	7.5M (UP&DN) &9.0M for byepass line.
28.	Road surface in between Level Xings Gates	Hexagonal C.C Block
29.	Length of speed breakers: -	7.5 Meters.
30.	Road signs: -	Provided
31.	Speed breaker indication board: -	Available
32.	TVU: -	9275 on 02/2022.

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33. Census next due on: - 02/2025.
34. Demarcation for placement of Detonators: - Provided.
35. No. of Gateman working: - 02.(12 Hours shift)
36. Nearest Railway Medical Assistance: - Sambalpur
37. Nearest Private Medical Assistance available (if any) Sambalpur
38. List of equipment available Yes/No: - Yes.

2.2. EQUIPMENT:

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

2.3 RECORDS TO BE KEPT AT GATE LODGE:

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

i) Gate working instructions in Hindi / English.
ii) Gate working instructions in local vernacular language.
iii) Gateman Rule Book in Local vernacular language.
iv) List for tools and books
v) Duty Roster.
vi) Certificate for working as gateman.
vii) Bio–Data particulars of Gateman, including date of passing vision test, initial/refresher course, safety camp etc.

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viii) Accident Register.
ix) Records of last census of road traffic at level crossing gate.
x) Public complaint Book.
xi) Inspection Book.
xii) S&T Register.

2.4 DUTIES OF GATEMAN:

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

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

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

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

3. **ROUTINE DUTIES OF GATEMAN**:

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

xv) Gateman must be vigilant to see that inconvenience to road users due to closure of Gates should be to the minimum possible extent.

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

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

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

i) He shall take prompt action to warn the Loco pilot/guard of the passing train by showing red flag by day and red light by night.

ii) He shall simultaneously try to draw the attention of the Loco pilot/guard by whistling continuously, shouting, gesticulating, and throwing ballast on the brake van or by any other means.

iii) If Loco pilot/guard fails to take notice, Gateman shall immediately inform the SM on duty to take appropriate action, under exchange of private number.

iv) In case of train parting, Gateman shall not show stop hand signal but show prescribed signal for train parting.

v) He shall endeavour to attract the attention of the Loco pilot/Guard by whistling continuously, shouting, gesticulating, and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.

vi) In case the Loco pilot/ALP/Guard fails to respond, gateman shall immediately inform the SM to take appropriate action, under exchange of private number.

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

i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals, in the 'ON' position.

ii) Then, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, regarding the defects/obstructions at the gate, under exchange of private number.

iii) If there is no response from the Station Master after two or three attempts he shall first protect the gate and then inform on phone.

(B)ELECTRIFIED SECTION:

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

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

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

(C) THE GATEMAN SHALL PROTECT THE LINE AS UNDER:
ON SINGLE LINE SECTION

i) The Gateman shall plant a red banner flag by day and a red light by night 5 meters away on the posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.

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

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

iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters on BG from the level crossing gate and place 3 detonators on the track 10 meters apart.

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

v) Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonators on his way back.

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

vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.

viii) Thereafter, he shall stop the approaching train by waving his red flag by day red hand signal lamp by might repeatedly.

(D) <u>THE GATEMAN SHALL PROTECT THE LINE AS UNDER</u>: -

<u>ON DOUBLE LINE SECTION</u>:-

i) If both lines are obstructed the Gateman shall plant a red banner flag by day and a red light by night 5 meters away from the obstruction on 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) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.

iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction, which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.

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

vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.

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

(E) <u>THE GATEMAN SHALL PROTECT THE LINE AS UNDER</u>: -

<u>ON MULTIPLE LINESECTION (in case of LC No. JT -24)</u>

i) If all the lines are obstructed, the Gateman 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 & DN line and in both directions for) on posts duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.

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

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iii) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night (in the direction(s) described in (i) above).

iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night on the line and directions on which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance

1200 on BG from the level crossing gate and place 3 detonators on the track in 10 meters apart. Having thus 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(s) and direction(s) as described in para (i) above, showing red hand signal, similarly place detonators as described in (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.

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

vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.

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

(F) OTHER ACTIONS TO BE TAKEN BY GATEMAN:-

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

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

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

2.5 **ENGINEERING ITEMS:**

iv) Visibility: -

Direction	Side	Visibility Distance
UP	Right	450M
	Left	1000M
DN	Right	1000M
	Left	450M
Bye pass line	Right	1000M
	Left	350M

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

vi) Periodical Census of traffic has been taken and the latest TVU is 9275 on 02/2022.

2.6 SPECIAL INSTRUCTIONS:-

1.MODE OF OPERATION:-

This is a Manned Engineering interlocked L.C. Gate situated in between SLRA-SBP double line and SLRA-SBPY bye pass line at Km 557/15-17(UP), 557/16-18(DN). This gate is interlocked with gate stop signals. Telephone connection is provided between the L.C gate lodge with SM on duty of SLRA Station. The level crossing gate is of lifting barrier type operated by means of winch provided at the gate lodge. The normal position of the gate is opened to road traffic. A six-lever ground frame is provided at the gate lodge. The key of the LC remains in the winch when the gate is open condition. When it is necessary to close the gate for taking OFF signals, the SM on duty/SLRA shall inform the gate man to close and lock the gate. The gate

man on duty shall then close the barriers of the LC gate by operating winch. Then key 'G' is to be extracted from the winch, which will be inserted in the lever of No.GF-1.

When GF-1 is reversed it locks the booms of the gate and releases GF-2 or GF-3 or GF-4 or GF-5. Then the gateman can reverse the GF-2 or GF-3 or GF-4 or GF-5 for taking OFF concerned UP or DN Gate stop signals. GF-6 is spare lever.ter passage of the Train the gateman shall normalize the concerned GF-2 or GF-3 or GF-4 or GF-5 lever to put back the gate signal. The gate man after normalize the GF-1lever shall extract the key 'G' from GF-1. Thereafter he will open the gate by inserting the key 'G' in the winch for normal passage of road traffic. The L.C gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01 (a).

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

WORKING OF SLIDING BOOM BARRIER INCASE OF FAILURE/DEFECTIVENESS OF LIFTING BARRIER (LC No.-JT-24)

1. Key 'S' when extracted from lock free EKT-4, makes road signal danger and actuates 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 SB1. Key SB1 when extracted lock the sliding barrier -1.
3. Similarly sliding barrier-2 after unlocking the padlock to be rolled across the road up to 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 and key SB1.
4. Finally released key SB-2, is to be inserted in EKT-4 to clear UP/DN signals by reversing GF2, GF3, GF4 or GF5 respectively.

2. INTIMATION TO GATEMAN-

(i) Before taking off departure signal for an UP train, the Station Master/SLRA shall advise the gateman through telephone connected at his end, the number, description, direction and expected time of passage of the train at the gate.

(II) This advice shall be given by the Station Master/SLRA to the gateman, as soon as he receivesthe train entering section advice from SM/SBP/SBPY.

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

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

3. . FAILURE OF TELEPHONIC COMMUNICATIONS:

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

(I) if the telephone fails at the gate connected with the station, Station Master/SLRA shall issue a caution order to the Loco pilot of UP train.

(II) Station Master/SLRA shall advise the Loco pilot to whistle continuously and proceed cautiously while approaching the gate.

(III) In case the gate signal is 'ON' he should stop at the gate signal and follow the procedure laid down under GR 3.73.

(IV) In case of an approaching train, the Station Master/SLRA shall advise the Station Master/SBP/SBPYas the case may be under exchange of private number that the telephone at the gate has failed.

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(V) The Station Master/SBP/SBPYshall then issue a caution order to the Loco pilot before dispatching a train in the block section from his end.

(VI) Station Master/SLRA will also advise the gateman through Gangman/Patrolman/Loco pilot of the first train that the telephone has become defective.

(VII) Station Master/SLRA 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.

4. <u>FAILURE OF LIFTING BARRIERS</u>:

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

1. The gateman shall put back the signal to 'ON' if already taken off then 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.
2. Gateman shall resort to sliding boom operation, if sliding boom also fails, he secure the gate against road traffic by means of safety chains and padlocks.
3. After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light by night to the Loco pilot of the approaching train.
4. Station Master on duty/SLRA shall issue a caution order to the Loco pilot of a departing train.
5. He shall also advise the station Master /SBP/SBPY, 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.
6. Station Master/ SLRA will advise maintenance staff responsible for maintenance of lifting barriers to repair the defect at the earliest.
7. Normal working will be resumed only after maintenance staff repair the barrier and issue reconnection/fit memo for the same.

5. <u>FAILURE OF GATE KEY WITH THE GATE IN CLOSED POSITION, WHEN GATE KEY CANNOT BE EXTRACTED FOR OPENING THE GATE.</u>

i) If the gate key cannot be extracted from the gate winch, gate lever or the key transmitter, then gateman must immediately inform the Station Master / SLRA 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 gate should be adopted.

iii) Station Master on duty / SLRA shall issue a caution order to the Loco pilot of a departing train.

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

v) Station Master/ SLRA will advise S&T staff responsible for maintenance of winch/key transmitter to rectify the defect at the earliest.

vi) Normal working will resumed only after S&T staff repairs the winch/key transmitter and issue reconnection/fit memo for the same.

6. <u>FAILURE OF THE GATE KEY WITH THE GATE IN OPEN CONDITION:</u>

i) If the gate key cannot be extracted from the winch, gate lever or key transmitter then gateman must immediately inform the Station Master on duty/ SLRA 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.

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iii) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass the trains on hand signals.
iv) Station Master on duty/ SLRA shall issue caution order to the Loco pilot of a departing train.
v) He shall also advise the station Master/ SBP/SBPYat the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco pilot before dispatching a train into the block section from his end.
vi) Station Master/ SLRA will advise S&T staff responsible for maintenance of winch//key transmitter to rectify the defect at the earliest.
vii) Normal working will resumed only after S&T staff repairs the winch/key transmitter and issue reconnection/fit memo for the same.

7. DEFECTIVE GATE SIGNALS:

(i) The gateman shall treat the gate signal as defective and must not take off 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

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

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

(iv) Thereafter, the gate must be treated as non–interlocked and procedure for reception/dispatch 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/ SLRA will issue a caution order to the Loco pilot of UP train.

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

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

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

8. OBSTRUCTION AT THE GATE:

I. If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall Immediately put back gate signals to "ON" position.

II. He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate.

III. Immediately after this, the gateman shall advise the Station Master/ SLRA on duty, regarding the defects/obstruction at the gate, under exchange of private number.

IV. If there is no response from the Station Master / SLRA after two or three attempts, he shall first protect the gate and then inform on phone.

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V. Gateman shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instructions for duties of gateman under item No.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 who shall not start the trains unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.

VIII. The Station Master/ SLRA shall also inform the station Master/ SBP/SBPYat the dispatching end, under exchange of private number, asking him not to despatch any train in the block section from his end, until the track has been cleared of all obstructions.

IX. After the track has been cleared of all obstructions the gateman shall inform the Station Master/ SLRA accordingly, under exchange of private number.

X. The gateman shall resort to sliding boom operation.

XI. When sliding boom also fails Station Master/SLRA shall then issue a caution order to Loco pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.

XII. Gateman shall secure the gate against road traffic by means of safety chains and padlocks and they're after exhibit green hand signal, if the gate is not obstructed.

XIII. Station Master/ SLRA shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.

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

9. <u>OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:</u>

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

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

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

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

<u>CERTIFICATE</u>: -

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

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APPENDIX – 'B'

(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:

SARLAis a Class 'B' station provided with Standard-II Interlocking. The station is provided with Route setting type Electronic Interlocking between points, signals, track circuit and other signalling gears. The station is equipped with Multiple Aspect Colour 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. **SIP.ECoR.SBP.SRLA.01, ALT-D** 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 colour 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. SM's HARD KEY :

Station master will turn on HARD KEY which is provided in counter box (SM-KEY), after turn on SM Key in VDU, SMR indication will appear and after that SM needs to turn on soft key (PC SM Key) for enabling VDU functions.

3.2. 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 VDU-1 or VDU-2. VDU Changeover between two Systems can be done by the following ways.

1. When the VDU-1 is active ONLINE, the SM KEY Status of VDU-2 will be in KEYOUT Condition with Red Colour.

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Whenever SM wants to change the control from VDU-1 to VDU-2, he shall apply SM KEY IN at VDU-2. During this time VDU-1SM KEY will get KEYOUT and the Colour will turn to Red. Vice-versa, the same operation will be applicable to change the Control from VDU-2 to VDU-1.

2. If ON-LINE VDU is failed, SM shall apply SM KEY 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 SM KEY	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 failure persists.

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
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.	'UP Train Entering Section' muting button	Yellow – acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	
8.	'DN Train Entering Section' muting button	Yellow – acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	
9.	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
10.	UP Block release button	Yellow – indicates prepared for Block release	On getting indication SM shall left click on the button icon which shall release Block Panel with SSBPAC(D).	
11.	DN Block release button	Yellow – indicates preparedfor Block release	On getting indication SM shall left click on the button icon which shall release Block Panel with SSBPAC(D).	
12.	Line Block button	Magenta colour when blocked	SS/Dy. SS shall point the curser on the icons provided on the berthing track and right click. One drop menu will appear indicating line	When line block is selected the concerned button on the particular line turns to RED.

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SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
			blocked and un-blocked, SS/Dy. SS has to select the required menu.	
13.	LC gate Control button	Yellow lamp indicates 'KEY IN'. RED lamp indicates 'Gate Locked'	When LC Gate is closed and key transmitted to SM Yellow lamp will be lit. Whenever the LC Gate is locked in route or otherwise Red indication will glow.	SM shall click on the button icon to select menu to Transmit/Receive/ Emergency operation of LC Gate as required
15	Permission received from SBP ack. button	Yellow permission received.	To acknowledge SS/SM has to left click on the ack.button	--
16	Permission granted to SBP ack. button	Yellow permission granted.	To grant permission for resetting SS/SM has to left click on the permission granting button	--
17	Permission received from SBPY ack. button	Yellow permission received.	To acknowledge SS/SM has to left click on the ack.button	--
18	Permission granted to SBPY ack. button	Yellow permission granted.	To grant permission for resetting SS/SM has to left click on the permission granting button	--
17	Permission received from SSN ack. button	Yellow permission received.	To acknowledge SS/SM has to left click on the ack.button	--
18	Permission granted to SSN ack button	Yellow permission granted.	To grant permission for resetting SS/SM has to left click on the permission granting button	--

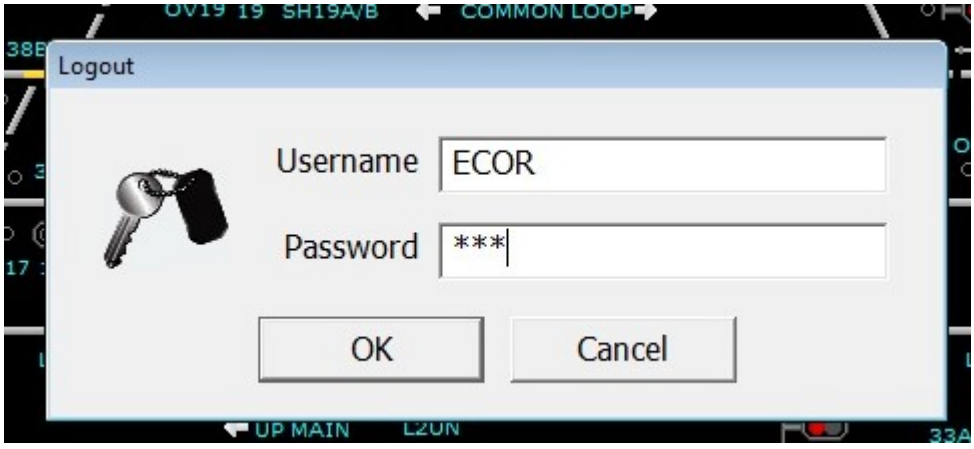
19	Axle counter reset key	Red light when key is OUT, Greenlight when the key is IN. Yellow light indication appears Line is verified clear from any obstruction	Ensures operation of VDU by authorized person. SM/SS has to follow the procedure to reset the axle counter by left click on the button icon to reset the axle counter	

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 SM KEY" 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 **SLRA** respectively.



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Then PC SM KEY icon will turns to Green color. This will enable all the controls in VDU.



VDU Control Changeover Operation:

With Dual VDU concept, we can control either from VDU-1 or VDU-2. VDU Changeover between Two System can be done by the following ways

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

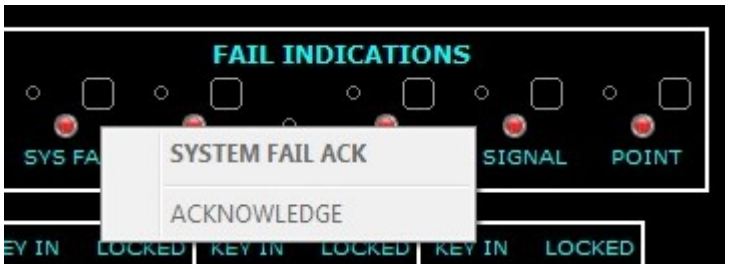
OPC Communication Failure & ET LINE2B status failure indication will be displayed in EI HFL only when the healthy status is not available from both systems.





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.

4.4.1 DESCRIPTION OF CROSS OVERS/DS POINTS :-

Srl No	Point No.	Description
1	101A/B	Crossover point between DN Main and UP main at SSN end.
2.	102A/B	Crossover point between DN Main and Line No.1 at SBP end.
3.	103A/B	Crossover point between UP Main and Line No.4 at SSN end.
4.	104A/B	Crossover point between DN Main and UP main at SBP end.
5.	105A/B	Crossover point between Line No.4 and Line No.5 at SSN end.
6.	106A/B	Crossover point between UP main Line and SBPY line at SBP end
7.	107	DS Point on over run line of line no. 6 at SSN end
8.	108A/B	Crossover point between UP main Line and SBPY line at SBP end
9.	109A/B	Crossover point between Line No.5 and Line No.6 at SSN end.
10.	110A/B	Crossover point between DN Main and UP main at SBP end.
11.	111A/B	Crossover point between Line No.6 and Line No.7 at SSN end.
12.	112	DS Point on over run line of line no. 1 at SBP end
13.	113A/B	Crossover point between DN main Line and Line No.1 at SSN end
14.	114A/B	Crossover point between DN main Line and Line No.1 at SBP end
15.	115A/B	Crossover point between DN Main and UP main at SSN end.
16.	116A/B	Crossover point between Main Line to SBPY and Line No.5 at SBPY end.
17.	117A/B	Crossover point between UP Main and Line No.4 at SSN end.
18.	118	DS Point on over run line of line no. 6 at SBPY end

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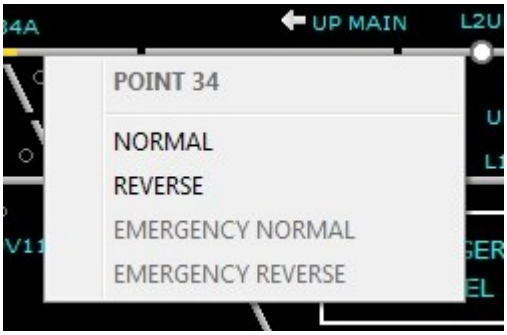
19.	119A/B	Crossover point between Line No.4 and Line No.5 at SSN end.
20.	120A/B	Crossover point between Line No.5 and Line No.6 at SBPY end.
21.	121A/B	Crossover point between DN Main and Line No.1 at SSN end.
22.	122A/B	Crossover point between Line No.6 and Line No.7 at SBPY end.
23.	123	DS Point on over run line of line no. 1 at SSN end
24.	124A/B	Take off point of Examination yard at SBP end.
25.	125	DS Point on over run line of line no. 1 at SSN end
26.	126	DS Point on over run line for Examination yard at SBP end.
27.	127A/B	Take off point of Examination yard at SSN end.
28.	128A/B	Crossover point between Line No.1 and examination yard at SBP end.
29.	129	DS Point on shunting neck of at SSN end
30.	130	Takeoff Point of Examination Line No.2 at SBP end
31.	131A/B	Crossover point between Examination yard and ROH yard at SSN end.
32.	132A/B	Crossover point between Examination Line No.1 and 2 at SBP end.
33.	133A/B	Crossover point between Examination Line No.1 and 2 at SSN end.
34.	134	DS Point on ROH Line No.1 at SBP end
35.	135A/B	Crossover point between Loco Reverse Line and Examination Line No.2 at SSN end
36.	136A/B	Crossover point between Loco Reverse Line and Examination Line No.2 at SBP end
37.	137	DS Point on Examination Line No.2 at SSN end.
38.	138	DS Point on Examination Line No.2 at SBP end
39.	139A/B	Crossover point between ROH Line No.1 & ROH Line No.2 at SSN end
40.	140A/B	Crossover point between ROH Line No.1 & ROH Line No.2 at SBP end
41.	141	DS Point on ROH line no. 1 at SSN end
42.	142	DS Point on ROH Line No.1 at SBP end
43.	144	DS Point on shunting neck of ROH Line No.2 at SBP end
44.	146	Point between shunting neck and wheel parking siding of ROH Line No.2 at SBP end
45.	148	Take off point of Trolley Wheel parking line at SBP end.

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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:

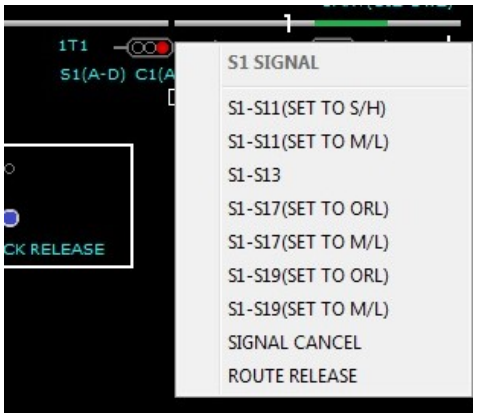
Track the pointer to **REVERSE** menu and click, a Reverse flashing indication will appear, the indication will be steady after the point is set to Reverse.

4.5.3. POINT INDICATIONS:

When the point is free a steady yellow strip of light will appear either in the normal portion of point zone (In case of cross over at both ends) or in the reverse portion 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 portion is disappears and starts flashing in the reverse portion 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 portion disappears and starts flashing in the normal portion 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.

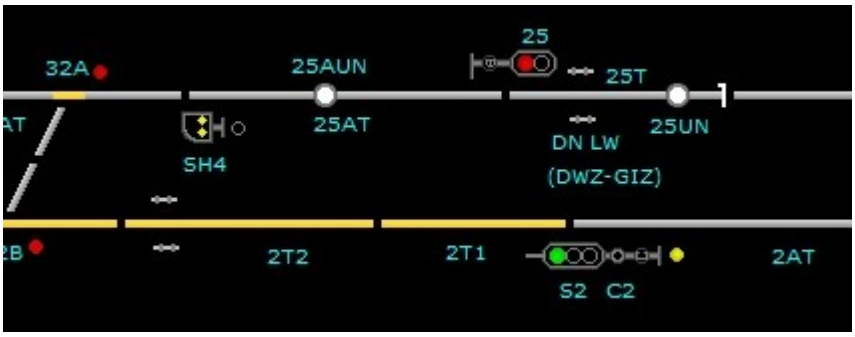
4.6. SIGNAL OPERATION:

To take-off a signal on the desired route, the SM needs to Right click the mouse on the concerned signal on the operator VDU. After clicking on the Signal, a pop-up menu will appear as below for route set, signal cancellation and route release operations.Describe the operation in detail



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 circuit.



Conditions for setting a route:

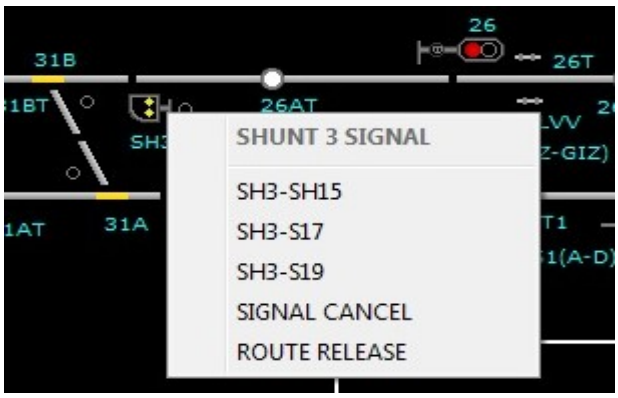
The following condition to be ensured before setting the route by the SM/ ASM.

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

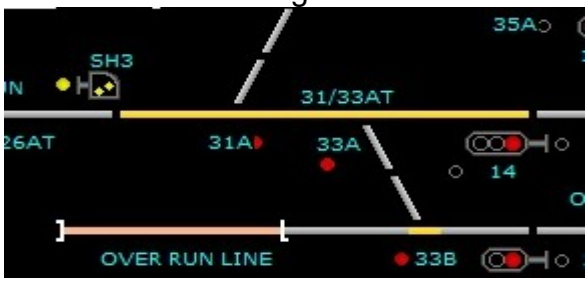
4.6.2. SHUNT SIGNAL OPERATION:

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 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:

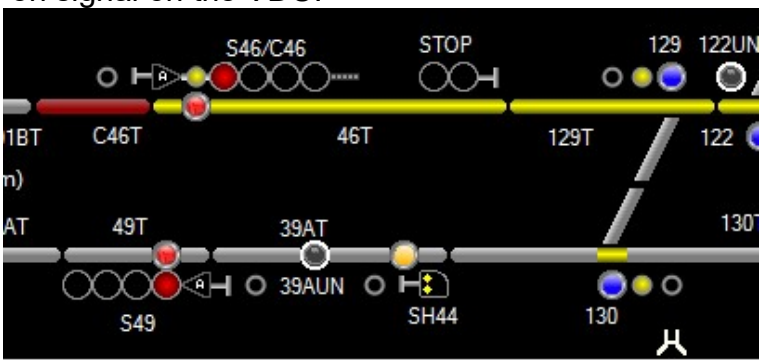
Calling-on signal route set operation is similar to the same procedure as mentioned for the main signal except that to take off calling-on signal clearance of overlap is not required. For calling-on Signal, route is set after a train occupies the approach track circuit in immediate rear of the Home signals and Starter signals. The calling on Signal is cleared after a lapse of 60 Seconds for Calling on below Home signals and without any Time delay for calling on provided below starters, provided other conditions are fulfilled.

To take “OFF” Calling-on signal the train must come to a stop at the foot of the Home signal, occupying the track circuit (1AT, 2AT, 4AT) as the case may be) in rear of the signal and either one of two track circuitsin advanced of Home signal must be clear. When a train occupies the track circuit a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be set by tracking the pointer in VDU on to the signal below which the calling on signal is provided. 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. After atime delay of 60 seconds, the Calling-on signal clears i.e. a yellow light glows at the concerned calling-on signal on the VDU.

Taking off Calling on signal below starter signal:
In case of Calling ‘ON’ signal below starter signal SM on duty should ascertain that the train has stopped near the starter signal the particular route on which train is intended to

dispatch shall be set by tracking the pointer in VDU on the signal below which the Calling on signal is provided. Left click on the calling on signal which will appears a pop menu. Then the SM must drag the pointer and click over the required route as a result of which the calling on signal clears immediately without any time delay i.e., a yellow light glows at the concern 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.

4.7. CRANK HANDLE CONTROL OPERATION:

Normally a 'KEY IN' (Yellow) indication will appear on the VDU indicting 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 or engaged on route setting in any other way.

4.8 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 in 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:

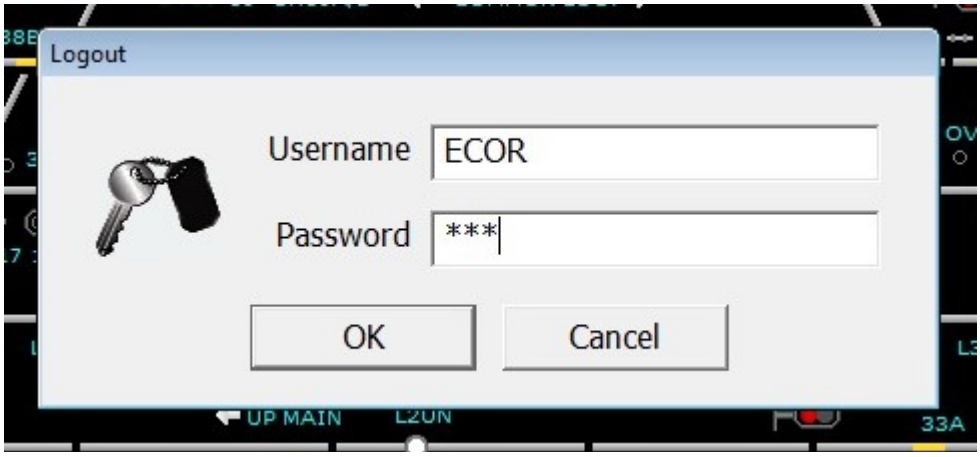
When the point zone track circuits failed without any point lock condition through respective signal route(s), a point can be operated by the Emergency Point operation.

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



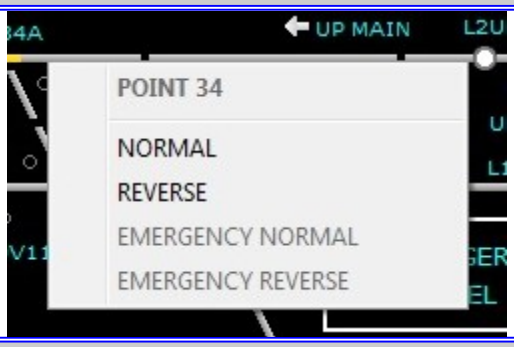
Click on the KEY IN in the menu appeared and shall provide User name and password for the same as follows.



The user name of this station is 'ECOR' and password of this station is VDPD. 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 SLRA.

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 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 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 put the VDU key to middle position and then the key (ECH) to right provided in the in the key box fixed on the top of the SM table. By resorting to this time is initiated and flashing indication will appear in the key box fixed on the SM table . After 120 seconds the flashing indication will be steady which results that all the crank handles are released at a time atCH location boxes. 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.

CRANK HANDLE CONTROLS FOR EMERGENCY OPERATION OF POINTS			
Sl No	CRANK HANDLE	CONTROL POINTS	PROVIDED IN
1.	CH1	101A/B, 115A/B	UP CH: LOC No.4 & 5SSN end.
2.	CH2	103A/B, 117A/B.	UP CH LOC-No.2& 5 SSN end.
3.	CH3	113A/B. 121A/B	UP CH: LOC No.2 & 4SSN end.
4.	CH4	123.125.127A/B.	UP CH: LOC No.2 & 4 SSN end.
5.	CH5	129. 131A/B.	UP CH: LOC No.1 & 4 SSN end.
6.	CH6	105A/B. 119A/B.	UP CH: LOC No.2 & 3SSN end
7.	CH7	107. 109A/B. 111A/B.	UP CH: LOC No.3 SSN end.
8.	CH8	133A/B. 135. 137A/B.	UP CH: LOC No.1 SSN end.
9.	CH9	139A/B. 141	UP CH: LOC No.1 SSN end.
10.	CH10	116A/B	DN CH: LOC No.1 SBP end
11.	CH11	118.120A/B. 122A/B.	DN CH: LOC No.1 SBP end
12.	CH12	140A/B. 142.144.146.148	DN CH LOC No.4 SBP end
13.	CH13	130. 132 A/B.134. 136A/B. 138	DN CH LOC No.3&5 SBP end
14.	CH14	112. 124A/B. 128A/B.	DN CH LOC No.2,5,6 SBP end
15.	CH15	126	DN CH LOC No.6 SBP end
16.	CH16	102A/B.114 A/B	DN CH LOC No.2&6 SBP end
17.	CH17	104A/B. 110 A/B	DN CH LOC No.2&6 SBP end
18.	CH18	106A/B. 108 A/B	DN CH LOC No.1&6 SBP end

5.3.2. EMERGENCY CRANK HANDLE RELEASE DURING FAILURE OF BOTH EI (ACTIVE & STANDBY) SYSTEMS:

When both the EI systems fails to operate due to power failure or whatever the reason, the SM on duty shall put the VDU key to middle position and then the key (ECH) to right provided in the key box fixed on the top of the SM table. By resorting to this time is initiated and flashing indication will appear in the key box fixed on the SM table . After 120 seconds the flashing indication will be steady which results that all the crank handles are released at a time atCH location boxes. TheSM on duty can set the required point/ points through crank handles manually by extracting the key/keys from EKTs provided in the location boxes. The signalling staff i.e., JE/SSE/Sig or ESM shall be intimated immediately regarding the failure for rectification of the same.

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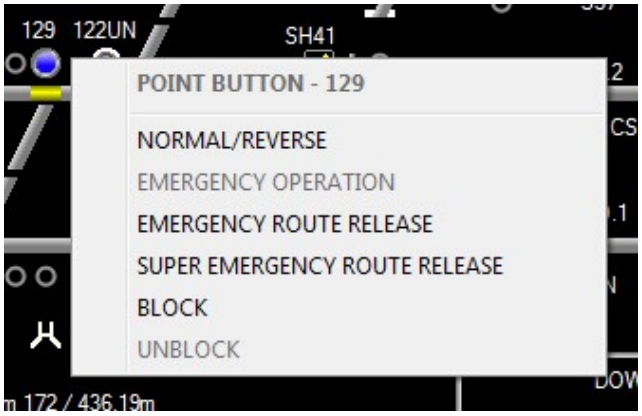
5.4. BLOCK AND UNBLOCK (REMINDER COLLAR) OPERATION:

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

1. Line blockand Unblockfeature.
2. Power block feature

1. LINE BLOCK AND UNBLOCK :

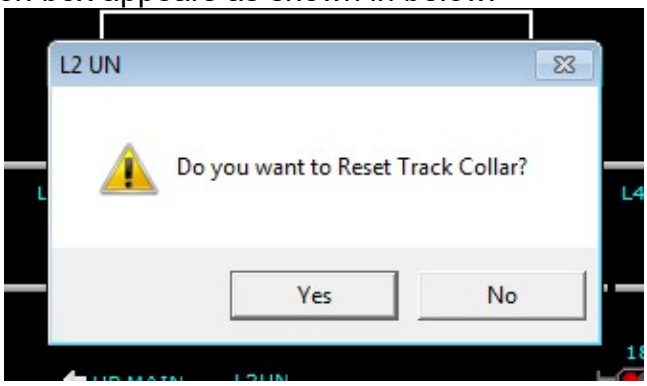
When SM on duty requires demarcating a berthing/stabling line as BLOCKED / FREE line he shall adopt the following procedure:



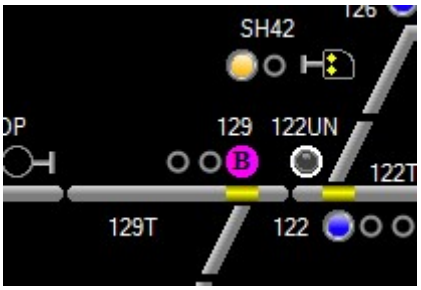
5.4.1. BLOCK OPERATION:

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.

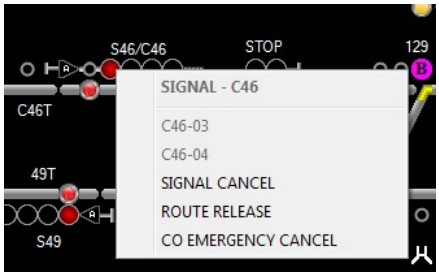
Select the "BLOCK" menu item from the list and press left mouse button or Enter key in the keyboard. A confirmation box appears as shown in below.



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

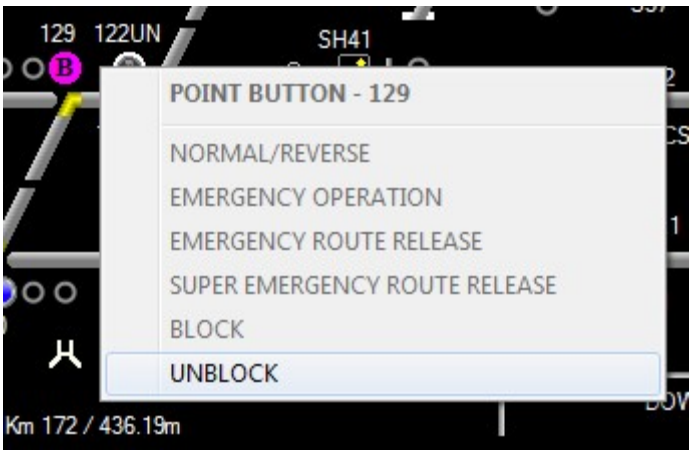


Once Block command is applied, all routes across the track in both directions are prohibited by disabling menu items of the respective signals as shown in below.

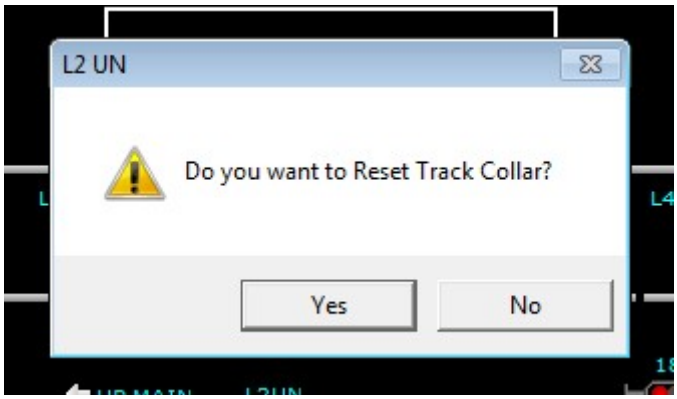


UNBLOCK OPERATION:

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.



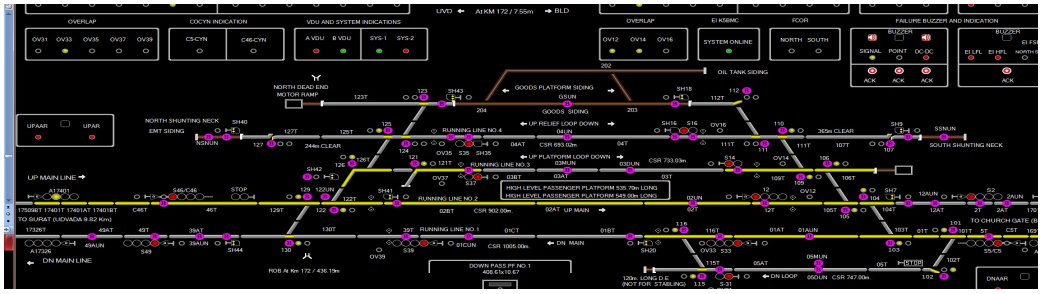
A confirmation message box as shown in below will be displayed to get the confirmation from the user. UNBLOCK command will be sent to EI system to unblock the button, when “Yes” buttons is clicked.



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.

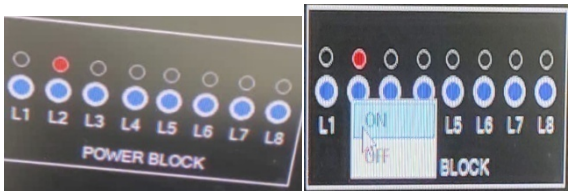
5.4.2. All UNBLOCK OPERATION:

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



5.4.3 POWER BLOCK:

Power block indication through drop down menu for all lines are provided in power block icon on the VDU to remained SM for power block of line.



On right clicking for respective line, the ON/OFF pop-up menu appears . By selecting ON menu RED indication will appear and selecting OFF menu BLUE indication will appear

6. DIGITAL AXLE COUNTER:

High Availability Single Section Digital Axle Counters are provided with dual sensor with media converter with EI connectivity and QD cable. as a Last Vehicle Checking Device (LVCD) for Both UP and DN block section between SLRA-SBP, SLRA-SSN and in single line block section between SLRA-SBPY.

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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.

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 SLRA Station, SM of SBP/SSN/SBPY should perform the following step by step procedure from (b) to (i) for resetting the Digital Axle Counter.

b) SM of SLRA Station and SBP/SSN/SBPY 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 SLRAandSBP/SBPY station.
d) Release SM's Reset Key and Push button.
e) Turn the SM's Reset Key to left and remove it.

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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 CUSTODY OF KEYS:

All the 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.

7.0 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.



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

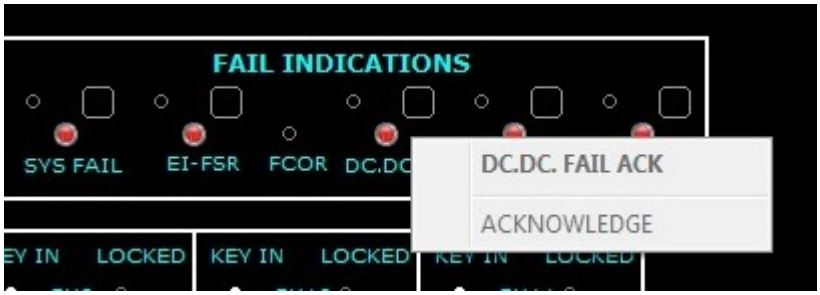
Whenever there is a failure of point due to non-setting, point failure indication flashing light appears near the point button icon along with point failure Buzzer. The buzzer stops when the point failure acknowledgement button icon is pressed, but the flashing light above the ACK button shall continue 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.



7.2 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.

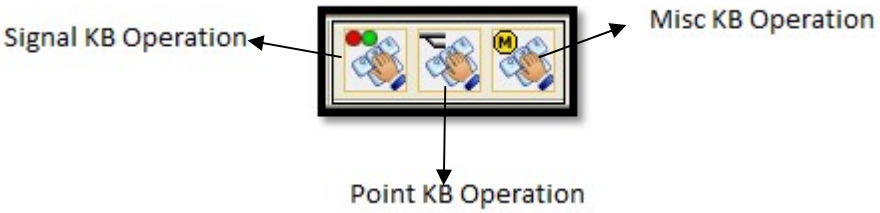


7.3 KEY BOARD OPERATIONS:

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:-

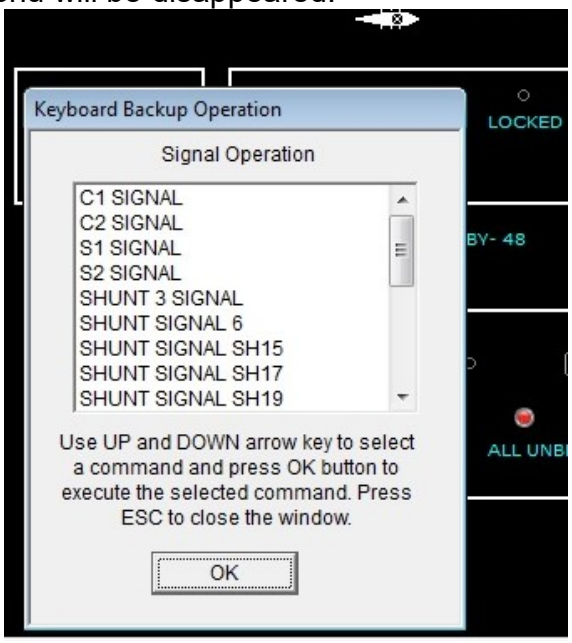
1. Signal KB (Keyboard) operation.
2. Point KB operation.
3. Misc KB operation.



7.4 SIGNAL KEY BOARD OPERATION:

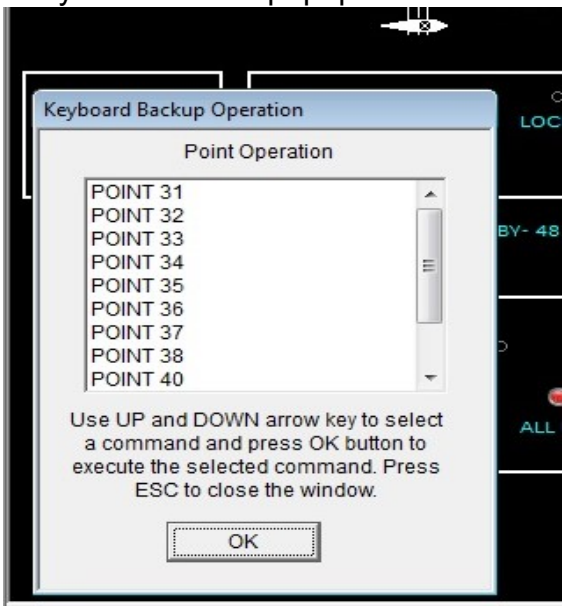
Alternatively signal commands can be accessed using the shortcut “Ctrl+S” from the keyboard. When the shortcut is pressed, a dialog box with all signal menus will appear as shown in below at the bottom left corner of the window. Using Up (↑) and Down(↓) arrow keys of the keyboard select the desired item 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.



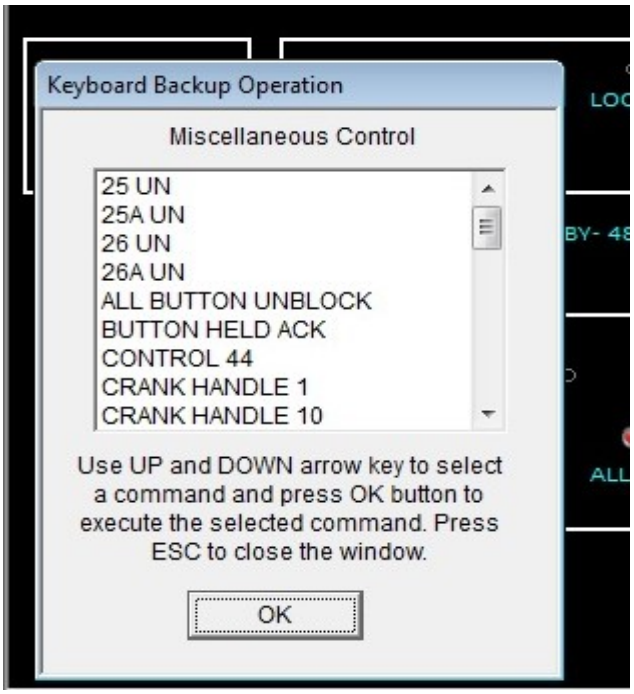
7.5 POINT KEY BOARD OPERATION:

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.



7.6 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.

8 COUNTERS:

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

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.
6. Emergency Gate Release.
7. Axle counter Reset.

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.

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9 TRACK CIRCUITS:

The station yard is fully track circuited from Home signal to Home signal and also for 5 rail lengths in rear of the Home signals on either side. Track circuits 1AT, 2AT and 4AT are calling-on track circuits. 101BT, 101/103AT, 103BT, 105BT, 105AT, 113BT, 113/115T, 115BT, 109AT, 121AT, 111AT, 111BT, 121BT, 121AT, 117AT, 117BT, 119AT, 119BT, 127BT, 131T, 133BT, 133/135T, 139T1, 139T, 140BT, 144/146T, 140AT, 140AT1, 136T, 132T, 130T, 128AT, 128BT, 112T, 114BT, 114AT, 110BT, 110AT, 116AT, 116BT, 120AT, 120BT, 122AT, 122BT, 108AT, 106/108T, 108BT1, 104/106BT, 124BT, 124AT, 102BT, 102/104AT are Point zone track circuits. L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L3T1, L3T2, L3T3, L4T1, L4T2, L4T3, L5T1, L5T2, L5T3, L6T1, L6T2, L6T3, L7T1, L7T2, L7T3, LLT1, LLT2, LLT3, EL1T1, EL1T2, EL1T3, EL2T1, EL2T2, EL2T3 are berthing track circuits. Other track circuits namely 1T1, 1T2, 2T1, 2T2, 81AT, 83AT, 83T, 80AT, 80T are for signal replacement, route holding. Indications for all track circuits are indicated on the VDU. Normally these are not lit when the track circuits are clear and RED light appears when the track circuit is occupied/failed. White strip lights for the track indications appear when the relevant route is set. In case of failure of any track circuit, the controlled signals or points are to be treated as non-interlocked and trains shall be worked as per relevant rules.

Indications for the above track circuits are available on VDU. Yellow Strip on VDU indicates Route is set and track is clear and Red strip indicates Track is in occupied condition.

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

10 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 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.*

11 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.

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12 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].

The SM on duty shall nominate a clear line and shall advise the TPM on duty at station to set the nominated route with the help of crank handle if the points cannot be set from the VDU. Then the TPM shall set the facing and trailing points and clamp and padlock the same under the supervision of SM on duty.

The SM on duty shall then hand over the written authority (T/369(3b) to the TPM for piloting the train. While going towards Home signal the TPM shall check the points and satisfy himself that the route is correctly set.

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

NOTE:

The Station Master on duty shall personally supervise the correct setting, clamping and padlocking of the facing points, if any and ensure clearance on the nominated route vide SR [Ref. SR 3.69.03(c)].

a) The keys of padlock of the clamps of the points on the route for piloting In or piloting OUT shall be in the personally custody of the SM on duty or any other authorized operating officials till such time the train / engine / vehicle has utilized the route or alternatively such movement is cancelled.

13 PILOTING OF TRAINS - OUT OF STATION YARD:

When the starter signal has become defective, the Station Master on duty shall advise the on duty TPM to set all points correctly for the outgoing trains. Then he shall clamp and padlock the same under the supervision of SM on duty. Then the SM on duty shall hand over the pilot memo T/369(3b) (along with the other authority if necessary) to the on duty TPM. The TPM on duty shall hand over the authority to the Loco pilot of the train and display proceed hand signal at the foot of the starter vide SR. [Refer SR 3.70.03].

In case the advanced starter signal has become defective, such signal shall be passed on the written authority on the form T/369(3b). The TPM shall hand over the pilot memo in form T/369(3b) to the Loco pilot after the train stopped. [Refer SR 3.70.03].

14 SHUNTING:

Shunt signals at top point viz., SH5 at SSN end and SH8 at SBP SH10 at SBPYend have been provided for back shunt movement, SH6, SH7, SH9, SH13, SH14, SH16, SH18, SH22, SH24, SH41, SH43 & SH45 are provided at siding. SH21, SH23, SH25, SH27, SH29, SH33 below starter signals, at SBP &SBPYend and SH26, SH 28, SH 30, SH32, SH34, SH36, SH38, SH40, are also provided below starter at SSN end of the yard for yard shunting.Shunting is prohibited with main signal in this yard.

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15 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.

16 OBSERVATION OF TRACK CIRCUIT AFTER STABLING OF TRAINS ON RUNNING LINES:

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

17 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.

18 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

After receipt of the failure information, the sectional Maintainer shall attend to the failure after giving a 'Disconnection Memo'. After rectification of the fault, the Sectional Maintainer shall give 'Reconnection Memo' detailing the rectification. Thereafter the Station Master on duty shall personally check this defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective apparatus in terms of SR.3.51.04 .

19 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.

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20 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.

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

a) When any point fails to operate normally by individually or Route Setting operation through VDU, the points can be operated by using the crank handle. Normally these crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank Handles Locations.

b) In event of failure/defect of points trains may be received/dispatched on signals after manual operation of points by the emergency crank handles which are interlocked with the signals provided-

The station master deputes a responsible operating official with the crank handle to operate the defective point manually. The emergency crank handle is electrically transmitted to him by the Station Master on duty with instructions to set the defective point(s) to the desired position (viz., Normal or reverse) and clamp and padlocked the same. Both the ends of a cross over must be set in correspondence (viz., Normal or Reverse), the facing and trailing points must be clamped and padlocked. The operating official so deputed, after complying with such instructions should return the emergency crank handle by transmit electrically to station Master on duty.

c) The station Master on duty should verify from the visual indication available on the VDU/other means that the points are set to the desired position as instructed by him (Normal or Reverse) and thereafter return the crank handle received by him to the respective location box.

d) He should also verify from the operating official deputed to set the defective point(s) that the same is also clamped and padlocked, supported by a private number.

e) The station master on duty after ensuring the correct setting of defective point(s) as required in above Paras (b), (c), (d) can take off the concerned signals for movement of the trains over the point(s).

f) If even after complying with the instructions contained in paras (b) to (e) by station master on duty, the correct setting of the defective points to the desired position is not indicated in the visual indication provided, the train shall be piloted in and out in terms of SRs 3.69.06, 3.70.01 and 3.70.02, 3.70.03.

g) The cases of failure of motor point should be promptly reported to the concerned signal maintainer/signal SSE/JE for immediate rectification of the same.

h) Whenever a Crank Handle key is required to be used by a Signal Official for maintenance or attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the 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.

i) Whenever the emergency crank handle(s) is/are handed over to a Signal official for maintenance work or rectification of a failure, the points for the effected line 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 over which the train is to pass, as per SRs 3.69.06, 3.70.01 and 3.70.02, 3.70.03.

j) 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:
   1. Date:
   2. Point Number which failed or required to be tested:
   3. Time failure:
   4. Disconnection memo number received from S&T Staff:
   5. Signature of SM/Signal Official to whom the Emergency Crank Handle is handed over:
   6. Time Emergency Crank Handle is sent out:
   7. Signature/PN of the Operating official to ensure correct setting, Clamping and Padlocking of the Points:
   8. Date and Time fault rectified.
   9. Time of Emergency Crank Handle received back by SM on duty.
   10. Signature and Designation of the Signal Official who rectified the fault.
   11. Remarks.

A. 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.

B. 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.

C. 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 the concerned CH Location box. 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.

D. 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.

E. The failure of Motor Operated Points should be promptly reported to the concerned Signal Inspector/ESM for immediate rectification.

F. 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.

G. 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.

H. 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:

I. In case of blanking off a failure of both VDUs crank handle can be released. The procedure mentioned in Appendix-B Para No.5.3.1 & 5.3.2 to be followed for release of Crank Handle.

22 INTERLOCKING BETWEEN SIGNAL AND BLOCK INSTRUMENTS:-

This Station is equipped with the following types of Block Instruments to control movements of trains from and to adjacent Block Sections.

	Section	Type of Block Instrument
1.	SLRA-SBP	Double line SGE Block Instrument.
2.	SLRA-SBPY	TLBI (FM DIADO).
3.	SLRA-SSN	Double line SGE Block Instrument.

22.1 **LAST STOP SIGNAL CONTROL:-**

a) The block working of the section SLRA - SBP & SLRA - SSN are controlled by double line SGE Block Instrument and SLRA-SBPY single line section is controlled by Token-less Block Instrument (Diado type).
b) The Advanced starter signals are interlocked with the respective Block Instrument in such a way that the Advanced starter signal cannot be taken off unless the Line Clear is obtained from the block station in advance and the handle of the Block Instrument is turned to "TGT" position.
c) The concerned Advanced starter signal aspect will be changed its "OFF" aspect to "ON" aspect as soon as the leading pair of the train wheels occupies the concerned Advanced starter signal replacement track circuit provided ahead of the respective signal.

22.2 BLOCK RELEASE:-

[a] The Block Instruments are restored to normal (Line Closed condition) only after the complete arrival of the train past the block over lap ahead of the respective Home signal on either side of the Station yard.

[b] All the power signaling installations in Station are centrally controlled from the VDU and it is explicit in this arrangement that the complete arrival of a train into the yard from the block section cannot be ensured by the operating personnel in the centrally located VDU hence, to ensure complete arrival of the incoming train, Axle Counters are provided between SLRA-SBP, SLRA-SSN and SLRA-SBPYsections.

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

22.3 <u>SUSPENSION OF LAST STOP SIGNALS:</u>

When the Block instrument is suspended with its handle in ‘TRAIN COMING FROM’ position or “TRAIN GOING TO” position as the case may be for whatever reason, the concerned last stop signal controlled by the Block Instruments must be treated as suspended.

During failure of Block Instrument between SLRA- SBPY the authority will be Paper Line Clear Ticket (T/C 1425) with Identification number & Private Number issued from the Station in advance.

During the failure of Block Instrument between SRLA-SBP & SLRA-SSN, the authority will be T/369(3b) with identification number and Private Number issued from the station in advance written both in figure and words.

22.3.1 The SM on duty shall not grant ‘LINE CLEAR’ unless he has ensured that the lights of fixed signals, which apply, to the train are burning. If the signal lights cannot be kept burning, the SM on duty before giving ‘LINE CLEAR’ shall initiate action in accordance with the procedure prescribed in GR 3.61 to 3.71 & relevant SRs vide GR 3.49 (4).

22.3.2 The SM on duty shall not grant or ask ‘LINE CLEAR’, if the Axle Counter Section indicates section occupied and will treat the Block Instrument as suspended.

23 <u>NORMALISATION OF THE BLOCK SECTION AXLE COUNTER AND OF BLOCK WORKING BY RESETTING FEATURE</u>:

1. Digital Axle Counters are provided on Up and Down Block Sections between SLRA-SSN, SLRA-SBPand on single line betweenSLRA-SBPY sections.

2. The occupation and clearance of the axle counter section are indicated on the VDU by ‘RED’ and ‘GREEN’ lightrespectively.

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:

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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].

24 POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS:

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

i). Normal supply from UP AT/ DN AT connected to OHE traction distribution [230V 50HZ].

ii). Stand by supply – (a) 1st standby power supply: OSEB State Electricity Board Supply.

Normal power supply [Single-phase 230V-50 HZ] to the signaling and interlocking installation at the station is drawn from the traction power sources through ATs. Whenever traction power supply fails the SM on duty shall operate the changeover switch provided in the SM's office connecting the power supply from the healthy sources to the installation in case the knob is not in Auto mode.

The SM on duty however maintain the record of power failures either of the traction supply or local supply and he must promptly report the failure of any one or both the power sources immediately through the section controller and to the concerned Elect. Staff and S&T maintenance staff.

i). An Auto change over switch is provided in the SM's office with the three power supplies viz., UP AT, DN AT and local for the changing the switch automatically to the available supply. The availability of the supply is indicated by luminous indicator above the circuit breaker for each supply.

ii). Normally the switch will be kept in Auto Mode. If the Switch kept towards UP AT/DN AT position, whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other AT and change over the switch to the desired position.

NOTE: If power block is to be given on the UP line DN AT must be available and vice versa.

iii). 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 DN].

In case of failure of both AT supplies without any power block the local supply shall be utilized by operating the changeover 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.

iv). Whenever there is failure of power supply in one AT the SM on duty shall take prompt action to inform to all concerned for rectification.

The on duty SM himself during each shift shall check & test the availability of power supply on both ATs and make an entry in the station dairy duly initiating for rectification of failure if any.

v). For IPS system that provides supply to EI, a manual changeover switch is provided at SM's Office with the two power supply viz., selected supply from CLS panel and DG supply for changing the switch to required supply position manually.

vi). Normally manual changeover switch is kept in selected supply from CLS panel position, if in case any emergency changeover switch is changed to DG supply position.

vii). There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

25. **TELECOMMUNICATION FACILITIES: -**

1. Telephone attached with Block Instruments of SLRA-SBP, SLRA-SSN & SLRA-SBPY Block Sections.
2. Station to Station fixed telephone (hot line) is provided
3. Station is provided with Auto telephone connected with Railway Exchange
4. BSNL telephone is provided.
5. The station is connected to JHARSUGUDA-BALANGIR control circuit by control telephone.
6. Station to station 25 wattVHFcommunication is provided.
7. Telephone is provided between Station and both end crank handle locations.
8. Telephone is provided between Station and L.C Gate Lodge at KM 557/15-17(UP), 557/16-18(DN)&KM 554/19-21(UP),554/20-22(DN).
9. Telephone is provided between Station and TPC.

NOTE: -

1. For obtaining Line Clear, VHF should be used as a last alternative and not as a sole means of communication.
2. VHF and Walkie-Talkie sets should not be used for unnecessary discussions with Loco Pilots, Guards or any other staff.
3. The on duty SM shall use the above electrical communication instruments stated in Para-29. from item No. (1) to (6) 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.

26. **FAILURE OF COMMUNICATION / FAILURE OF BLOCK INSTRUMENTS:**

1) In the event of failure/suspension of block instrument, Track circuit & Axle Counter 'Line Clear' shall be obtained over telephone attached to the block instrument or station to station telephone by exchanging identification number and supported by private number as per SR 6.02.06 (a) and Chapter–III Part–I of Block Working Manual.

2) In the event of failure/suspension of block instrument and telephone attached to the block instrument, or the Station to station fix telephone 'Line Clear' shall be obtained on Railway auto phone or BSNL phone, by exchanging identification number supported by private number vide SR 6.02.06 (1)(b) and Chapter-III Part-I of Block Working Manual.

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3) In the event of failure/suspension of block instrument, telephone attached to the block instrument and station to station fixed telephone or Railway auto phone or BSNL phone, Line Clear shall be obtained over the control phone exchanging identification number and supported by 'Private Number' vide SR 6.02.06(1) (c) and Chapter-III Part-I of Block Working Manual.

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

5) In the event of total failure of all communications trains shall be worked vide SR 6.02.03 on double line section and vide SR 6.02.04 in single line section.

27. WORKING OF INTEGRATED POWER SUPPLY [IPS, INDICATIONS & ACTION TO BE TAKEN BY SM ON DUTY:

Power Supply to the signalling installation is fed through Integrated Power Supply System [IPS] installed in the S&T power Supply room. For IPS system, a manual changeover switch is provided at SM's Office with the two power Supply viz., selected Supply from CLS panel and DG Supply for changing the switch to required Supply position. Normally manual changeover switch is kept in selected Supply from CLS panel position, if in case any emergency changeover switch is changed to DG Supply position. There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

The IPS system is connected with battery as a backup power source for safe working during transition of power and in case 230 AC Supply is not available due to any reason.

In the event of failures of all the sources of 230V 50HZ AC Supply, the signaling system shall be fed by backup battery bank connected to IPS for a limited power of 3 to 4 hours. The health of the battery bank is monitored through one IPS Monitoring Panel provided in the SM's room which shall display the voltage of 110VDC battery bank provided as backup source of power Supply. Depending up on the health of the battery bank and the system the following indications/alarm will appear on the remote monitoring panel. The indications/alarm, their implications and action to be taken by SM on duty is tabulated below:

SN	Instruction	Health of Battery Bank/Equipment.	Visual Indication	Audio Indication	Action to be taken by SM on duty
A	-	50% DOD	Red	Alarm	Alarm shall be acknowledged by SM on duty.
B	-	60% DOD	Red	Alarm	-do-
C	System shutdown	70% DOD	Red	Alarm	Signal feed cut off and all DC-DC converters to Work. Audio alarm will continue till power Supply is restored.

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D	Call S&T staff.	Equipment fault.	Red	Alarm	Failure of any module will give the alarm in ASM's panel. Alarm shall be acknowledged by SM on duty for audio cut off.

On duty SM in each shift shall check and record the readings, indications, etc. in the station dairy duly initiating rectification of failures of IPS System, if any. In the event of failure of Remote monitoring ASM console due to any reason when both traction power and local power failed the SM on duty shall inform concerned Electrical staff immediately. In case ' call S&T staff ' or 'system shut down' indication appear on the remote monitoring panel of IPS and/ or mal functioning of the remote monitoring panel SM on duty shall inform the same to concerned S&T staff immediately.

NOTE: [i] DOD indicates depth of discharge of battery bank of IPS [ii] In case of failure of all AC Supply sources; IPS battery bank can provide power Supply maximum up to 3 to 4 hours before system shut down indication of IPS.

28. WORKING OF AUTOMATIC FIRE DETECTION AND ALARM SYSTEM:

- 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. and panel display name, by referring display chart.
- Once you find the zone number rush to that particular area where the detector gives alarm.
- The moment the smoke detector detects any smoke particles, the RED LED will blink along with the alarm.
- 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.
- 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.
- To reset the panel press "OFF" button and enter the code 1111 (1 digit four times).
- The control panel will get reset and siren muted.
- If the power fails on this will enable us to see the red indicator on the panel.
- 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.

AUTO DIALLING:

If you hear alarm from the panel, this system will dial the Railway telephone numbers you fed. The pre recorded messages will be heard on the phone. If you want to make two way communications, press "6" on your mobile. You can have this communication for 50 seconds. If you want to talk more, press again "6" before completion of 50 seconds for another 50 seconds or you can acknowledge the receipt of call by pressing "2" on SSE/Signal mobile, in case number "2" is not pressed the system will dial again the same telephone number as per the programmed dial attempt and still if acknowledgement not come from 1st number then panel will dial 2nd number till the time acknowledgement comes it will keep on dialing.

APPENDIX - 'C'
ANTI COLLISION DEVICE (RAKSHA KAVACH)

NIL

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APPENDIX - 'D'

1.0 **STATION MANAGER-I (INCHARGE)** :

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

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

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

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

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

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

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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 in stock always 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 etc. and record the result in the Station Master's diary.

5.0 **Dy SS/STATION MASTER/ASSISTANT STATION MASTER**:

He shall work in 8 hrs. shift for train passing and booking of traffic, coaching returns and other statements shall be prepared and submitted by him in time under the direction of the Station 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. His special attention is drawn to Chapter II of G & SR (Amendment) 2000 and GR 5.01 to 5.08 with relevant SRs. As an Assistant to the SS, he shall follow the instructions given to him by the Station Superintendent.

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6.0 **HANDING OVER AND TAKING OVER CHARGE**:

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

7.0**TRAFFIC POINTSMAN:**

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

(i) Delivery of authority to proceed and caution order etc. to the driver of train.
(ii) Correct setting and locking and crank handling of points for reception/dispatch and shunting operation under the supervision of Station Master.
(iii) To couple and uncouple vehicles under the supervision of Station Master/Guard when shunting operation is in progress.
(iv) Piloting and hand signaling of trains when necessary.
(v) Knowledge of hand signals, detonators and their use.
(vi) Protection of line in emergency and fog signaling.
(vii) Exchange of signals with the Driver and Guard of passing trains as directed by the Station Master.
(viii) Cleaning, Oiling and lighting of lamps.
(ix) Loading/unloading of parcels, luggage and packages to and from the train and watching the packages and other materials by properly stacking in the station premises.
(x) Dusting of station office, filling up the fire buckets with sand/water and getting train interact arrival register (T/1410) signed by the Guard as and when required.
(xi) Serving messages and any other duties entrusted to them by the SMR/SM from time to time.
(xii) Uses of emergency crank handle for setting of points.
(xiii) To supervise shunting as per SR 5.13.03.

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.

8.0 **TRAFFIC GATE KEEPER**:

In addition to the duties mentioned in Gate working instructions of concerned L.C.Gates in Appendix-A, the on duty Gateman shall follow the rules in Chapter-II of GR.

GENERAL

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

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APPENDIX - 'E'

ESSENTIAL EQUIPMENT OF THE STATION

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

Sl. No	Description		Quantity
1.	Detonators	...	10 in tin case
2.	Hand signal lamps/Tri Colour torch	...	06 Nos.
3.	Hand signal flags	...	06 sets.
4.	Safety chains with pad locks	...	16 Sets.
5.	Wedges/Skids	...	10 Nos.
6.	Fire buckets (with sand and water)	...	06 Nos.
7.	Clamps with padlocks	...	16 Nos.
8.	Block Suspension Board	...	03 Nos.
9.	"Motor Trolley on Line" boards	...	03 Nos.
10.	First aid Box	...	01 No.
11.	Stretcher	...	01 No.
12	Blanket	…	01 No.
13.	Fire extinguisher	...	02 No.

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APPENDIX - 'F'

RULES FOR WORKING OF DK STATIONS , HALTS,IBH, IBSAND OUTLYING SIDING

NIL

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