EAST COAST RAILWAY

STATION WORKING RULES OF

KESINGA (KSNG) STATION

SAMBALPUR DIVISION

EAST COAST RAILYWAY

SAMBALPUR DIVISION

INDEX OF CORRECTION SLIPS

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EAST COAST RAILWAY
SAMBALPUR DIVISION

No.SWR/KSNG/50

STATION WORKING RULES OF KESINGA [KSNG] STATION

BG/MG/NG: Broad Gauge
Date of Issue: 10.12.2025
Date brought in force: 17.12.2025

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

1. STATION WORKING RULE; -

1.1 **STATION WORKING RULE DIAGRAM NO.** SI/WRD **–22213, Alt-A**

1.2 **SIGNAL INTERLOCKING PLAN NO**.: - S.I –. **22213, Alt-A**

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

2. DESCRIPTION OF STATION: -

KESINGA is a five line**d** station situated in Raipur end.at KM 757.397 from HWH and at KM 215.643 from Raipur. It is Standard – III (R) interlocked Class‘ B’ station with Electronic Interlocking (EI) and Absolute Block System of Working. LVCD axle counters at either end are provided at the station for last vehicle check.

2.1 GENERAL LOCATION:-

a)	Name of the station	:	KESINGA (KSNG).
b)	Class of station	:	‘B’ class
c)	Section	:	Vizianagaram Jn.- Titlagarh Jn
d)	Double line/Single line	:	Multiple Line section
e)	Electrified/Non-Electrified	:	Electrified
f)	Gauge BG/NG/MG	:	BG
g)	Railway	:	East Coast Railway
h)	Route	:	‘D’
i)	Situated at	:	Km 757.397 from HWH via JSG Jn. & Km 215.643 from RAIPUR Jn
j)	Reckoned from	:	Raipur
k)	Operation	:	Centrally operated with Visual Display Unit (VDU).
l)	Type of Interlocking	:	Standard-III(R)
m)	E.I./P.I.	:	E.I.

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

1. Vizianagaram end : KANDEL ROAD (Code-:KDLR) at an inter distance of 8.664 Km
2. Raipur end : TITLAGARH (Code: TIG) at an inter distance 12.940. Km
3. Passenger Halt : NIL
4. Flag station : Nil
5. Outlying siding : Nil
6. D.K. station : Nil.
7. IBH : NIL
8. IBS : The section between KSNG –TIG has been split in to two Block sections by providing Intermediate Block Signal (IBS) at Km 208.600 on DN line controlled by 32 of KSNG station and on UP line at KM 208.900 controlled by 59 of TIG station

2.3 **BLOCK SECTION LIMITS ON EITHER SIDE OF THE STATION ON DIFFERENT DIRECTIONS: -**

Between stations	**The point from which 'Block section' commences.**	**The point at which 'Block section' ends.**
KSNG-TIG (UP Line)	UP Advanced starter signal of TIG station.	400 Mtrs beyond UP IB signal No 59 of TIG station.
KSNG-TIG (UP Line)	UP IB signal No 59 of TIG station.	BSLB on UP line of KSNG Station.
KSNG-TIG (DN Line)	DN Advanced starter signal No. 28 of KSNG station.	400 Mtrs beyond DN IB signal No 32 of KSNG station.
KSNG- TIG (DN Line)	DN IB signal No 32 of KSNG station.	Outer most facing point on DN line of TIG Station.
KSNG-KDLR (UP Line)	UP Advanced starter signal No. 27 of KSNG station.	BSLB on UP line of KDLR Station.
KSNG-KDLR (DN Line)	DN Advanced starter signal No. 26 of KDLR station.	BSLB on DN line of KSNG Station.
KSNG- KDLR (3rd Line)	From DN advanced starter signal No.28 of KDLR station.	UP Advanced starter signal No.29 of KSNG station.
KSNG- TIG (3rd Line)	From DN advanced starter signal No.30 of KSNG station.	UP Advanced starter signal of TIG station.

2.3.1 **STATION SECTION:**

The portion in between UP Advanced starter signal No 27 (at KDLR end) and BSLB on UP line (at TIG end) and further, the portion from BSLB on DN line (KDLR end) to DN Advanced starter signal No. 28 (at TIG end) is the station section of KSNG station. for UP and DN lines respectively.

The portion between UP Advanced starter signal No 29 (at KDLR end) on third line and DN Advanced starter No. 30 on DN line(at TIG end) is the station section for third line..

2.3.2 **STATION LIMIT:**

The portion between UP Inner Distant signal at TIG end and UP Advanced starter signal No-27 at KDLR end and Further, the portion between DN Inner Distant signal at KDLR end to DN Advance starter signal No.28 at TIG end is station limit of the Station.

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

2.4: **GRADIENTS, IFANY: -**

(a) **FROM THE CENTER OF STATION BUILDING TOWARDS KANDEL ROAD (UP LINE & GOODS LINE)**

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
From	To		
000.000	126.000	126.000	1 in 400 F
126.000	165.50	39.50	LEVEL
165.50	721.000	555.500	1 in 400 R
721.000	1500.000	779.000	1 in 145 R
1500.000	2100.000	600.000	1 in 157 R
2100.000	2700.000	600.000	1 in 505.31 R
2700.000	3000.000	300.000	1 in 158 R
3000.000	3200.000	200.000	1 in 306.04 R
3200.000	4100.000	900.000	1 in 207 R
4100.000	Block Section	---	LEVEL

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

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
From	To		
0.000	200.000	200.000	1 in 400 F
200.000	721.000	521.000	1 in 400 R
721.000	950.000	229.000	1 in 297 R
950.000	1750.000	800.000	1 in 190 R
1750.000	2750.000	1000.000	1 in 150 R
2750.000	2850.000	100.000	1 in 2500 R
2850.000	4150.000	1300.000	1 in 225 R
4150.000	Block Section	---	LEVEL

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

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
From	To		
0.000	203.075	203.075	1 in 400 F
203.075	721.075	518.000	1 in 400 R
721.075	1151.075	430.000	1 in 296.55 R
1151.075	2151.075	1000.000	1 in 190 R
2151.075	2591.075	440.000	1 in 150 R
2591.075	2849.075	258.075	1 in 170 R
2849.075	2971.075	122.075	LEVEL
2971.075	4151.075	1180.000	1 in 210 R
4151.075	Block Section	---	LEVEL

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(d) FROM THE CENTER OF STATION BUILDING TOWARDS TITLAGARH (UP LINE)

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
From	To		
0.000	240.000	240.000	1 in 775 R
240.000	721.00	481.000	1 in 470 R
721.000	1190.000	469.000	1 in 151.57 R
1190.000	1890.000	700.000	Level
1890.00	2640.000	750.000	1 in 159 F
2640.000	2890.000	250.000	1 in 473.5 R.
2890.000	3240.000	350.000	1 in 272 R
3240.000	Block Section	---	1 in 588 R

(e) FROM THE CENTER OF STATION BUILDING TOWARDS TITLAGARH (DN LINE)

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
From	To		
0.000	240.000	240.000	1 in 775 R
240.000	692.350	452.350	1 in 470 R
692.350	1190.000	497.650	1 in 200C R
1190.000	1890.000	750.000	Level
1890.000	2640.000	850.000	1 in 212.1 F
2640.000	2940.000	300.000	1 in 433.5 R.
2940.000	3240.000	300.000	1 in 404.31 R
3240.000	Block Section	---	1 in 600 R

(f) FROM THE CENTER OF STATION BUILDING TOWARDS TITLAGARH (THIRD LINE)

Chainage in meter		Inter distance in meter	Gradient (Falling/Raising/Level)
From	To		
0.000	698.925	698.925	1 in 500 R
698.925	1187.925	489.000	1 in 242.68 R
1187.925	1988.945	801.020	Level
1988.945	2848.925	959.980	1 in 285 F
2848.925	3208.925	360.000	1 in 275 R
3208.925	Block Section	---	Level

IBS ZONE

i) TITLAGARH END (DN LINE)

Chainage in KM		Inter distance in meter	Gradient (Falling/Raising/Level)
From	To		
Block Section	KM 210.330	---	1 in 156 F
KM 210.330	KM 209.500	830.000	1 in 150 F
KM 209.500	KM 209.200	300.000	LEVEL
KM 209.200	KM 208.960	240.000	1 in 825 F
KM 208.960	KM 208.680	280.000	1 in 1400 R

KM 208.680	KM 208.486	194.000	LEVEL
KM 208.486	KM 207.800	686.000	1 in 612 F
KM 207.800	KM 207.686	114.000	LEVEL
KM 207.686	KM 207.386	300.000	1 in 770 R
KM 207.386	KM 206.936	450.000	1 in 160 R
KM 206.936	KM 206.581	355.000	1 in 150 R
KM 206.581	Block Section	---	1 in 217 R

ii) KESINGA END (UP LINE)

Chainage in KM		**Inter distance in meter**	**Gradient (Falling/Raising/Level)**
From	**To**		
Block Section	KM 207.680	---	1 in 800 F
KM 207.680	KM 207.830	150.000	LEVEL
KM 207.830	KM 208.080	250.000	1 in 400 R
KM 208.080	KM 208.480	400.000	1 in 1000 R
KM 208.480	KM 208.680	200.000	LEVEL
KM 208.680	KM 208.980	3000.000	1 in 1400 R
KM 208.980	KM 209.280	300.000	1 in 800 F
KM 209.280	KM 209.536	256.000	LEVEL
KM 209.536	Block Section	---	1 in 150 F

2.5 LAY OUT: -

1. No. of running lines : 5. (Five)
2. No. of sidings : 3 (Three).
   a) Goods Siding takes off from Line No1 at KDLR end of the yard.
   b) One Sick siding takes OFF from Line No.1 at KDLR end and is isolated by DS point No 64.
   c) One shunting neck takes from off from line No. 4 at KDLR end.
3. No. of Passenger platforms : 04(Four), One High level Platform of dimension 600M X 10.0 M beside Line No.-5, another High level Island platform of dimension 587.397 M X 9.62 M beside Line No.3 & 4, another High level platform of dimension 580 M X 10.6 M beside Line No.1.
4. No. of goods shed platform : 01(One), One Goods Shed platform of dimension 238x16 M existing beside platform No 1 towards VZM end and another Handling Rail level Platform of dimension 785x10 M is also existing in continuation to Goods shed platform.

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

DESCRIPTION	**CSL**	**Electrified/ Non - Electrified**	**ISOLATION PROVIDED**	
			TOWARDS KDLR	**TOWARDS TIG**
Line No.1 (Common Loop)	730.0 mtrs. (STR. to STR)	Electrified	ORL	ORL

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Line No.2 (UP Main)	742 mtrs. (STR. to SH Sig)	Electrified	---	---
Line No.3 (DN Main)	754 mtrs. (STR to SH. Sig)	Electrified	--	-
Line No.4 (Common Loop)	718.0 mtrs. (STR to STR)	Electrified	ORL	ORL
Line No.5 (Main Line)	902 mtrs. (STR to STR)	Electrified	---	--

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

a) Trains arriving from TITLAGARH end are UP trains.

b) Trains arriving from KANDEL ROAD end are DN trains.

2.5.2 **NON-RUNNING LINES AND THEIR CAPACITY IN CSL:**

Sl. No.	Description	CSL	Takes off from	Exit	Operation
(i)	Sick Siding	369.25 m (SB to SH)	L/1 at KDLR end.	One way	Controlled from VDU
(ii)	Goods Siding	776.0 m (SB to SH)	L/1 at KDLR end.	One way	Controlled from VDU
(iii)	Shunting neck	87.0 m (SH-DE)	L/4 at KDLR end.	One way	Controlled from VDU

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT: -

NIL

2.6 LEVEL CROSSINGS:

(i) LEVEL CROSSINGS: (STATION SECTION)

Sl. No	Location	K.M.	Normal Position	Class	Type	Operation	Communication
1.	KSNG- TIG (Between DN advanced starter and DN Starters)	215/7-9 (UP) 215/8-10(DN) 215/8A-10A(3rd) (RV-172)	Open to Road Traffic	'C'	Interlocked	Electrical lifting barrier	Push button telephone with SM office/KSNG

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

Sl. No	Location	K.M.	Normal Position	Class	Type	Operation	Communication
1	Between KSNG-TIG	205/27-29 (UP) 205/28-30(DN) 205/28A-30A(3rd) (RV 163)	Closed to Road Traffic	'B1'	Non-Interlocked	Winch Operated Lifting Barrier	Voice logger Telephone with SM office/TIG.
2	Between KSNG-TIG	206/21-23 (UP) 206/22-24(DN) 206/20A-30A(3rd) (RV 164)	Closed to Road Traffic	'SPL'	Non-Interlocked	Winch Operated Lifting Barrier	Voice logger Telephone with SM office/TIG.
3	Between KSNG-	208/3-5 (UP) 208/4-6(DN)	Closed to Road	'B2'	Non-Interloc	Winch Operated	Voice logger Telephone with

	TIG	208/4A-6A(3rd) (RV 166)	Traffic		ked	Lifting Barrier	SM office/TIG.
4.	Between KSNG-TIG	209/17-19 (UP) 209/18-20(DN) 209/18A-20A(3rd) (RV 168)	Closed to Road Traffic	'B2'	Non-Interlocked	Winch Operated Lifting Barrier	Voice logger Telephone with SM office/KSNG.
5	Between KSNG-TIG	210/29-31 (UP) 210/30-32(DN) 210/30A-32A(3rd) (RV 169)	Closed to Road Traffic	'B1'	Non-Interlocked	Winch Operated Lifting Barrier	Voice logger Telephone with SM office/KSNG.
6	Between KSNG-TIG	212/11-13 (UP) 212/12-14(DN) 212/12A-14A(3rd) (RV 171)	Closed to Road Traffic	'B2'	Non-Interlocked	Winch Operated Lifting Barrier	Voice logger Telephone with SM office/KSNG.
7	Between KSNG-KDLR	218/15-17 (UP) 218/16-18 (DN) 218/16A-18A(3rd) (RV-175)	Open to Road Traffic	'Spl'	Interlocked	Electrically operated Lifting barrier	Magneto telephone with SM office/KSNG
8	Between KSNG-KDLR	220/13-15 (UP) 220/14-16 (DN) 220/14A-16A(3rd) (RV-177)	Closed to Road Traffic	'B2'	Non-Interlocked	Winch Operated Lifting Barrier	Magneto telephone with SM office/KDLR

(Train Actuated Warning Device has been provided at RV-175 Level Crossing Gate only.)
(Working of Level Crossing Gate is detailed in appendix 'A')

3. SYSTEM AND MEANS OF WORKING:-

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

(i) **System of working** : Absolute Block system on Single Line and Double lines

(ii) **Type of block instrument** : For section KSNG-TIG Double Line Lock and Block Instrument (SGE type) is provided and for 3rd line Single line Block Panel with UFSBI type instrument is provided for this section.
For section KSNG-KDLR Double line Lock and Block (SGE type) instrument is provided for double line and for 3rd line Single line Block Panel with UFSBI type instrument is provided for this section.

(iii) **Block Telephone** : Provided with respective block instruments KSNG-TIG & KSNG-KDLR sections

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

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

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

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

The station is provided with Standard III(R) interlocking with Multiple Aspect Colour Light Signaling and Dual detection (HASSDAC) LVCD Axle Counters. All the points are operated from VDU by on duty Station Master except Point No. 68A/B. The Home

signals and Advanced Starter signals are interlocked with respective block instruments. GR 3.08(4) (b) governs the aspect and indications of the signals respectively. The station has no end cabins.

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

The following is the combination of signals in the yard.

a) UP Gate Distant of LC No-RV175 with UP Advanced starter signal No. 27 of KSNG for UP line.
b) UP Gate Distant of LC No-RV175 with UP Advanced starter signal No. 29 of KSNG for 3rd line.
c) DN Distant of KSNG with DN Gate Stop signal GS 4 of LC No-RV175 for DN line.
d) DN Distant of KSNG with DN Gate Stop signal GS 6 of LC No-RV175 for 3rd line.

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

The Station is provided with central Electronic Interlocking (EI) system. All signals and points are electrically operated from the VDU provided at SM's Office except crossover point No. 68 A/B. A stand by VDU is also provided to switch over the system in case of failure of working VDU. Calling-on signals are provided below Home signals (i.e. in both UP & DN directions) and below all UP & DN starter signal. Central VDU is provided in the Station Master's office to electrically control all signals, points, Gate & siding key, etc., The VDU is provided with SM's KEY, User name and password which shall always remain in personal custody of SM on duty in terms of SR 3.36.03(a).

NOTE:

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

4.1.3 **TRACK CIRCUIT: -**

All the lines including point zone between Home and Advanced starter signal on either direction is track circuited. In addition, there are short length track circuits in advance of Advanced starter signals and in rear of Home signals.

The position of the running lines including point zones i.e. occupied/clear is indicated in the VDU at the Station Master's office. Normally there will be no indication of track circuits. It shows 'RED' when the line is occupied and 'WHITE' in VDU when the line is clear provided the route is set.

AXLE COUNTER:

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

KSNG-KDLR UD LVV:

A pair of dual digital axle counter is provided between KESINGA and KANDEL ROAD one beyond UP Advanced starter signal of KESINGA & 180 M in advance of UP Home signal of KANDEL ROAD 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.

KSNG-KDLR DR LVV;
A Pair of dual digital axle counter is provided for DN line of KESINGA and KANDEL ROAD one beyond DN Advanced starter signal of KANDEL ROAD & another 180 M in advance of DN Home Signal of KESINGA 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.

KSNG-KDLR BAXT(3rd Line) ;
A Pair of dual digital axle counter is provided for 3rd line between KESINGA and KANDEL ROAD one beyond UP Advanced starter signal of KESINGA & another beyond DN advanced starter signal of KANDEL ROAD on 3rd line for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train.

KSNG-TIG BAXT(3rd Line) ;
A Pair of dual digital axle counter is provided for 3rd line between KESINGA and TITLAGARH one beyond UP Advanced starter signal of TITLAGARH & another beyond DN advanced starter signal of KESINGA on 3rd line for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train.

TIG-KSNG IB SECTION (51AXT):
A pair of dual Digital Axle counters is provided one beyond UP Last Stop Signal No 51 of TITLAGARH and another 400 M beyond UP IB Home signal No 59 of TITLAGARG on UP line for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the IB section is clear of trains as well as to verify the last vehicle of the incoming train.

KSNG-TIG UD LVV:
A pair of dual Digital Axle counters is provided one beyond UP IB Stop Signal No 59 of TIG and another 180 M beyond UP Home signal No 1 of KSNG 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.

KSNG-TIG IB SECTION (28AXT):
A pair of dual Digital Axle counters is provided one beyond DN Last Stop Signal No 28 of KESINGA and another 400 M beyond DN IB Home signal No 32 of KESINGA on DN line for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the IB section is clear of trains as well as to verify the last vehicle of the incoming train.

KSNG-TIG DR LVV:
A pair of dual Digital Axle counters is provided one beyond DN IB Stop Signal No 32 of KSNG and another 180 M beyond DN Home signal of TITLAGARH 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.
The position of block section i.e. clear/occupied is reflected on the reset box panel and VDU provided in the Station Master's office which shows 'GREEN' when the block section is clear and 'RED when the block section is occupied. Whenever a train enters in to the Block section, "Block Section Clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears. After complete arrival of the train the 'RED' indication will disappear and 'GREEN' indication will appear. If after the

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

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

NOTE:

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

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

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

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

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

4.1.6 **IBS:**

The section between KSNG –TIG has been split in to two Block sections by providing Intermediate Block Signal (IBS) at Km 208.600 on DN line controlled by 32 of KSNG station and on UP line at KM 208.900 controlled by 59 of TIG station.

4.1.7 **POINTS AND TRAP INDICATOR:** NIL

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

4.1.9 **CALLING ON SIGNALS**:-

Miniature colour light Calling-on signal is 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 below Home signal will be taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' due to failure or any other reason or for admission of train on a blocked line. Before taking 'OFF' Calling on signal during failure of track circuit the route and clearance of the track over which the train will be admitted must be checked physically by SM on duty. For taking OFF" Calling ON below home signal a time delay of 60sec is

provided. But Calling ON provided below starter signal clears without any time delay but SM on duty must ensure that train has stopped at the signal.

NOTE:

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

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

4.1.10 **SHUNT SIGNALS:-**

Shunt signals at top point viz SH 5 and SH 7 at TIG end and SH 6 and SH 8 at KLDR end have been provided for back shunt movements. SH 11, SH 12, SH 13, SH 14, SH 15, SH 16, SH 17, SH 18, SH 19, SH 20, SH 22, SH 24 and SH 26 are also provided for yard shunting.

4.1.11 **ANTI COLLISION DEVICE: -** NIL

4.1.12 **EMERGENCY CROSSOVER:- NIL.**

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

4.1.14 **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.

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CRANK HANDLE	CONTROL POINTS
CH-1	52 A/B, 54 A/B
CH-2	51 A/B,55 A/B.
CH-3	57 A/B, 60 A/B.
CH-4	56 A/B, 59A/B, 66.
CH-5	53 A/B, 58 A/B.
CH-6	64.
CH-7	68 A/B.
CH-8	62 A/B.

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

and padlocking of all facing and trailing points. An emergency Crank handle register shall be maintained by the SM on duty at the station as per Para 2.19 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.

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

When both the EI systems fails to operate due to any technical reason or power failure, all the crank handles are released at a time with time delay of 120 second and 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. The signaling staff i.e., JE/SSE/Sig or ESM shall be intimated immediately regarding the failure for rectification of the same.

(Please refer para No.5.3 of Appendix 'B' of this SWR for detail operation)

4.1.16 **EMERGENCY POINT OPERATION :**

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

After the completion of Emergency point operation, the key is to be KEY OUT by clicking KEY OUT menu. The user name and password is to be given for KEY OUT also. This action will be recorded in a counter. Each operation of emergency point operation shall be recorded in the station diary and in the Register meant for this purpose.

4.1.17 **EMERGENCY ROUTE RELEASE INDICATION (WHITE) EMERGENCY ROUTE RELEASE MENU:**

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

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

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

4.1.18 **EMERGENCY ROUTE RELEASE COUNTER:**

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

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

STAFF: -

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

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

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

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

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

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

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

Entry to be made in S& T failure register by SM on duty and failure Memo has to be issued to S& T staff. S& T staff shall not take the Relay Room Key for attending failures and open the Relay Room unless the failure is recorded in Signal failure register.

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

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

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

4.3 POWER SUPPLY: -

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

(i) Normal: - UP AT/DN AT connected to OHE Traction distribution (230V, 50 Hz)

(ii) Stand by: - Stand by Supply from OSEB – Single Phase (230V, 50Hz).

(iii) Normal Power Supply (Single Phase 230V, 50Hz) to the Signaling & Interlocking installation at the station is drawn from the traction power sources. Whenever traction power supply fails SS/SM on duty shall operate the rotary change over switch provided in the CLS power panel at SM's office connecting the power supply from the State Electricity Power Supply.

The SS/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 Electrical Staff and S&T maintenance Staff.

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

b) Normally the switch will be kept towards AUTO position. Whenever the power block is to be given on the line, on duty SS/SM must ascertain the power is available on the other AT and change over the switch to desired position if required e.g. if power block is to be given on the UP line, DN AT must be available and vice versa.

c) In case of failure of one of the AT supply without any power block, on duty SS/SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is UP and when tripped, it goes DN). In case of failure of both AT supplies without any power block, the local supplies shall be utilized by operating the changeover switch. If the circuit breaker is tripping, even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEE/GEN and CTFO/PSI/TRD/GEN for prompt rectification.

d) Whenever there is a failure of power supply in one AT, the on duty SS/SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of power supply on both AT's and make an entry in station diary daily duly initiating action for rectification of failure, if any

e) For IPS system that provides to EI, auto–change–over has been provided.

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

REMOTE MONITORING SM BOX:

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

(a) 50% depth of discharge (DOD)(105.9v) of battery. In this condition audio/visual alarm comes, which can be acknowledged with audio cut–off.

(b) 60% DOD(105.1v), which warns for emergency. The alarm for this condition is same as for condition 1.

(c) 70% DOD(104.3v), 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 Local power supply the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of Local power supply and make an entry in the Station Diary duly initiating action for rectification of failure, if any.

5.0 TELECOMMUNICATION FACILITIES: -

i) Telephone attached with DLBI of KSNG-TIG & KSNG-KDLR Block Sections for Double line and Block telephone attached with Block Panel for section KSNG-KDLR 3rd line.

ii) Station to Station fixed telephone (Hot line) is provided

iii) Station is provided with Auto telephone connected with Railway Exchange.

iv) BSNL telephone is provided.

v) The station is connected to Balangir-Singapur Road 'B' cabin control circuit by a control telephone.

vi) Traction Power Control telephone is provided.

vii) Telephone communication is provided between station SSP and SP

viii) Station to station 25 Watt VHF communication is provided.

ix) Telephone is provided between Station and both end crank handle locations.

x) Telephone is provided between Station and DN IBS post at KM 208.60.

xi) Telephone is provided between Station and L.C.Gates No. RV-172 at KM 215/7-9 (UP) 215/8-10(DN) 215/8A-10A(3rd line), RV-168 at KM 209/17- 19(UP) 209/18-20(DN) 209/18A-20A(3rd line), RV-169 at KM 210/29-31(UP) 210/30-32(DN) 210/30A-32A(3rd line), RV-171 at KM 212/11-13(UP) 212/12-14(DN) 212/12A-14A (3rd line) and RV-175 at KM 218/15-17(UP) 218/16-18(DN)(RV-175) 218/16A-18A (3rd line).

NOTE:

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

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

5.1 **FAILURE OF COMMUNICATION: -**

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

6.0 **SYSTEM OF TRAIN WORKING: -**

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

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

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

6.1.1 **TRAIN WORKING STAFF IN EACH SHIFT: -**

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

Sl. No.	Designation	Roster	No. of Staff In Each Shift	Hrs. of Duty
1.	SS(I/C)	Continuous	--	09 Hrs
2.	SS/SM	Continuous	01	08 hrs.
3.	PM 'A'/PM 'B'	Continuous	01	8 hrs.
4.	GK/Sr.GK	E1	01	12 Hrs

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

6.1.2 **RESPONSIBILITY OF ASCERTAINING CLEARANCE OF THE LINES AND ZONES OF RESPONSIBILITY:**

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

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

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

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

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

The declaration shall be renewed in the following cases: -

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

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

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

(b) Before granting line clear for a train SM on duty shall personally ensure that the reception signals pertaining to a train are in the 'ON' position and burning properly vide GR 3.49(4). Line clear shall not be granted for train till such time it is ensured that concerned Loco Pilot is notified of the fact in writing by the SM of the station to which such line clear is to be granted.

[A] For double line Section-(KSNG-TIG) and (KSNG-KDLR)

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

i) The whole of the last preceding train has arrived complete inside outermost facing point or BSLB.
ii) All necessary signals have been put back to 'ON' behind the said train.
iii) The line is clear up to the BSLB provided at both ends i.e TIG end and KDLR end.

[B] For Single Line section-(KDLR-KSNG) and (KSNG-TIG) 3RD Line

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) Block section is clear of running in the direction towards the block station for which such line clear is being given.
(iv) The line is clear up to advanced starter No 29 for DN train.

[C] OUTLYING SIDING: - NIL.

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

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

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

Safety Point Alarm Unit (SPAU):

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

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

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

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

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

Whenever trains are to be admitted on an obstructed line the Calling-on signal may be taken off. If calling-on signal fails then the SM on duty shall authorize the on duty TPM with form T/509 indicating the reason for such admission the line number and the nature of obstruction on that line. Before handing over the authority, the SM on duty shall ensure the correct setting clamping and padlocking of both facing and trailing end of the concerned route vide SR 3.69.03. A stop hand signal shall be exhibited 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 (GR 5.09 & SR 5.09.01).

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE

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

6.2.1.4 DESPATCH OF TRAINS FROM NON-SIGNALED LINE

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

6.2.1.5 DESPATCH OF TRAINS FROM LINE PROVIDED WITH COMMON STARTER SIGNAL

N/A

6.2.1.6 SPECIAL RESTRICTIONS:

(i) While shunting on gradients towards UP & DN adv starter signal No.27, 28 &29 an engine shall be attached towards the falling side of the gradient vide GR.5.20(b) to be strictly followed.

(ii) On non-isolated line no load shall be stabled without a live engine attached.

(iii) Due to existence of gradient steeper than 1;400 beyond 50m of outer most point the trains should not be drawn up to the last stop signal and held up on the steep gradient in order to clear the reception line for giving permission to approach the following trains.

(iv) In joint line (3rd line), whenever overlap is towards main line (3rd line) at either end for reception of train, it must be ensured that before lowering the home signal for admitting the said trains, another train if any in the next block section, coming from opposite direction comes to a dead stop at the foot of the concerned Home Signal.

SPECIAL INSTRUCTION: -

Due to steel girder Br.No.343, Stoppage of passenger train at Home signal S1/S3 will be avoided in view of passenger safety.

6.3 CONDITIONS FOR TAKING 'OFF' APPROACH SIGNAL: -

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

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

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

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

Sr. No	Line No.	UP TRAIN		DN TRAIN	
		FROM	TO	FROM	TO
1	Line No. 1	UP starter signal No.11.	Up to the end of DS Pt 64 or Advanced starter Signal No.27	DN starter signal No.20.	Up to the end of ORL.
2	Line No. 2	UP starter signal No.13	Up to Advanced starter Signal No.27.	--	--
3	Line No. 3	---	---	DN Starter Signal No. 16.	Up to Advanced starter signal No.28

S. SAINI
DSTE(SIG)/SBP

LINGARAJ GARTIA
DOM(G)/SBP

4	Line No. 4	UP starter signal No.17.	Up to the DS Pt 66.	DN Starter Signal No. 14	Up to the end of ORL or Up to Advanced starter signal No.28
5	Line No. 4 (3rd line)	UP starter signal No.17.	Up to the DS Pt 66. Or up to adv starter no-29	DN Starter Signal No. 14	Up to the end of ORL or Up to Advanced starter signal No.30
6	Line No. 5 (3rd line)	UP starter signal No.19.	Up to the Advanced starter Signal No.29.	DN Starter Signal No. 12	Up to Advanced starter signal No.30

Before admitting a train on any line, it must be ensured that the track indication for the respective line indicates 'WHITE' indication in the VDU. To receive a train, for which line clear is granted, the SM on duty shall nominate a clear line in consultation with the Section Controller on duty. SM shall personally satisfy himself that the nominated line is clear and free from all obstructions by seeing the track circuit indication on VDU or by physical verification of the nominated route in case of failure of track circuit. He shall suspend all non-isolated shunting and thereafter set the points of the nominated route are set trough 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/starter signal at either end provided any one of the home signal replacement track circuits in advance of Home signal/starter signal does not show 'RED' indication. Miniature Color light calling on signal is 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. The calling on signal is taken off for reception of a train when the Home signal above it cannot be taken off due to failure of track circuit or any other reason or for admission of a train on blocked line.

B. TAKING OFF CALLING ON SIGNAL

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal/Starter signal, occupying the track circuit in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be set by tracking the pointer in VDU on to the signal below which the calling on signal is provided. Various options in terms of the total routes over which the signal will lead to will appear on the menu. Then the SM must drag the pointer and click over the particular Calling on route amongst the various options displayed in the menu by the left button of the mouse as a result of which the Calling-on signal will blink for 60 seconds in case of calling ON signal below Home signal. After a lapse of 60 seconds, the Calling-on signal below Home signal will clear. In case of calling ON signal below starter signal SM on duty should ascertain that the train has stopped, then only SM will take OFF calling ON signal below starter signal, without delay the Calling ON will clear i.e., a White light glows at the concerned calling-on signal on the VDU. Every such operation has to be recorded by the on duty SM along with the reasons to do so. The calling-on signal route can be released after complete arrival of the train or by emergency cancellation.

NOTE:

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

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

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

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

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

According to the existing interlocking at this station, the simultaneous reception and dispatch of trains are permitted as stipulated below (GR 3.47).

(i)	While receiving an UP train on Line No.1 set to DS 64	Another UP train can be dispatched from L2 or L 4 to UP line or from L/4 or L/5 to 3rd line.
(ii)	While receiving an UP train on Line No.2	Dispatch of another UP train from Line No. 4 or from Line No.5 to 3rd Line
(iii)	While receiving an UP train on Line No.4 from UP Line set to DS 66.	Dispatch of another UP train from Line No.L1 or L2 to UP line and from L/5 to 3rd line.
(iv)	While receiving an UP train on Line No.4 set to DS 66 from 3rd Line.	Dispatch of another UP train on Line No.L1 or L/2 to UP line and from L/5 to 3rd line.
(v)	While receiving an UP train on Line No.5 from 3rd .	Dispatch of another UP train from L1 or L2 or L4 to UP line.
(vi)	While receiving a DN train on Line No.1 set to ORL	DN train can be dispatched from L3 or L4 to DN line and from L/5 to 3rd line.
(vii)	While receiving a DN train on Line No.3.	Dispatch of another DN train from Line No. 4 or from Line No.5 to 3rd Line.
(viii)	While receiving a DN train on Line No.4 from DN main or 3rd line set to ORL.	Dispatch of another DN train from L1or L3 to DN main line or from L5 to 3rd line.
(ix)	While receiving a DN train on Line No.5.	Dispatch of another DN train on Line No.L1 or L/3 or L/4 to DN main line.

6.5 COMPLETE ARRIVAL OF TRAIN: -

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

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

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

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

Entire block section at both sides of the station is monitored by axle counter system and the position of block section whether clear or occupied is indicated in the VDU.

As soon as a train enters in to the block section, the 'RED' indication appears in the axle counter indication panel. After the whole train clears the block section, 'GREEN' indication appears on the axle counter indication panel. This confirms the complete arrival of train and the SM on duty shall give train out of section report on seeing the section clear (GREEN) indication at the panel.

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DSTE(SIG)/SBP

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DOM(G)/SBP

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

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

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

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

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

6.6 **DISPATCHING OF TRAINS: -**

Dispatch of trains are governed by General Rules 3.36, 3.38, 3.42, 5.11,14.08 & 8.01 Subsidiary Rule 3.36.04(b), 3.42.04 and Block Working Manual 2.07(5)(a)(b) and other provisions of General Rules, Subsidiary Rules, Block Working Manual and Station Working Rules of the station. To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the VDU. He shall suspend all non-isolated shunting and ensure that the Level crossing gates are closed against road traffic and then shall take "OFF" the concerned route starter and Advanced starter signal. The 'OFF' aspect of the concerned starter and Advanced starter is the authority to proceed into the block section.

The Station Master on duty shall watch the safe passage of the train with its last vehicle indicator. After the train passes the advanced starter complete, he shall send the train entering block section signal to the station in advance. If a train worked without Guard or Brake Van the instruction laid down in Subsidiary Rule shall be followed. The Gatekeeper of interlocked level crossing gate at TITLAGARH end shall be advised before dispatch of a train. 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 provision of GR 3.4, 4.17, 4.42 with relevant SRs and SR 3.42.02 (a) (iv) and other relevant provision of BWM shall be observed.

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

c) In every case in which trains are permitted to run through on a non isolated line, all shunting shall be stopped on a connected line which is not isolated from through line vide SR 4.11 (2).

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

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

6.8 **WORKING IN CASE OF FAILURE: -**

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

6.8.1 **PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF A SIGNAL & INTERLOCKING INSTALLATION: -**

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

6.8.2 **TRACK CIRCUIT**

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

6.8.3 **AXLE COUNTER**

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

6.8.4 **DEFECTIVE SIGNALS:**

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

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

6.8.5 **BLOCK INSTRUMENT/BLOCK PANEL**

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

Both UP Advanced starter signal and DN IB Home signals of the double line 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 (LC). Both UP and DN Advanced starter signals for 3rd line are interlocked with the Line clear position of the Block Panel. When any of the block instrument is suspended in 'Line clear' position, the concerned Advanced Starter must also be treated as suspended.

During the failure of Double line Block Instrument of the section KSNG – KDLR & KSNG-TITLAGARH, the authority will be T/369(3b) with identification number & Private Number issued from the station in advance written both in figure and words. During the failure of single line Block panel with UFSBI of the section KSNG-KDLR and KSNG-TIG authority will be PLCT.

6.8.6 **DEFFECTIVE INTERLOCKING**

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

6.8.7 **DEFFECTIVE/DAMAGED POINTS**

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

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

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

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

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

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

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

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

6.9 PROVISIONS FOR WORKING OF TROLLEYS/MOTOR TROLLEYS/MATERIAL LORRIES:

(a) Motor Trolleys are run in accordance with Subsidiary Rules 15.25.03 to 15.25.09.
(b) Material Lorries will work in accordance with Subsidiary Rules 15.27.05 to 15.27.08
(c) Rail Trolleys will work in accordance with Subsidiary Rules 15.27.10.

The following precautions must be taken during working of motor trolleys as per Para 838 of IRPWM.:

i) A motor trolley shall be run only under block protection or following a train/motor trolley in accordance with special instructions. (SR
ii) When a motor trolley that is worked under block protection or following a train/motor trolley, breaks down (i.e. it cannot be propelled even by hand) in the block section, the official-in-charge should remove it clear off the track and send a written advice to the nearest Station Master/Block Hut-in-charge returning the 'Authority to proceed'/ Motor Trolley permit/ line clear ticket/ token/ tablet or advise the nearest Station Master/Control through the emergency telephone with exchange of Private Number about the same. He should not place again the motor trolley on the line without the written permission of either Station Master/ Block Hut-in-charge at the end of the block section concerned.
iii) Following a Train/Motor Trolley - Motor trolley may follow a fully vacuum/air brake train or a light engine or another motor trolley in the same block section during daylight hours and in clear weather under special instructions issued by the Railway Administration.

Note: Trolleys which are to be run on track circuit area shall be insulated as per SR 15.20.02.

7.0 **BLOCKING OF LINES: -**
Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. 'Line Block' is to be activated on VDU by SM on duty following procedures as laid down in

para no. 6.2.2. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23, SR5.04.01 (a) and SR 5.23.01(a)]

7.1 **LINE BLOCK FEATURE IN VDU:-**

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

7.2 **SECURING OF VEHICLES** :-

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

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

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

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

b) If all the lines at a station happens to be blocked when line clear has been granted to a train, the points should be set for the line occupied by a stable load or a goods train in that order so that in a case of mishap, the chances of casualties are minimized. In case all the lines are occupied by passenger carrying trains points should be set for a loop line, to negotiate which the speed of the incoming train would be reduced, which in turn would minimize the consequences of casualties. While doing so, points shall be set for a loop, occupied by a train if any, whose engine is facing the direction of approach of the incoming train rather than a loop line, occupied by a train whose passenger coach will, in case of collision, receive the impact.

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

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

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

after clearance of the rake from the line. The railway servant supervising loading and unloading shall also ensure that consignment does not foul any line vide SR 5.19.001: (a). If the stations are on gradients, the rake should be properly secured as detailed in SR 5.23.01. During the time of loading / unloading, the station master shall ensure isolation of the lines(s) as detailed in SR 3.51.06.

8.0 SHUNTING: -

i) Shunting in face of an approaching train is prohibited.
ii) Hand shunting, loose and fly shunting is not permitted at both ends of the yard.
iii) GR 5.20 and SRs that to shall apply at this station.
iv) Shunting shall not be permitted at either end of the yard unless the engine is leading towards the falling gradient.

8.1 **GENERAL PRECAUTIONS: -**

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

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

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

8.2 **SHUNTING IN FACE OF AN APPROACHING TRAIN:.**

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

8.3 **PROHIBITION OF SHUNTING ANY SPECIAL FEATURES IF ANY:**

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

8.4 **SHUNTING ON SINGLE LINE:**

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

8.5 **SHUNTING ON Double Line**

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

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

Shunt signals are provided for shunting to and from Goods siding/sick siding. During failure of shunt signals shunting shall be conducted by shunting authority i.e. T/806 by clamping and padlocking of points (Both facing and Trailing).

8.6.1 **SHUNTING OUTSIDE STATION SECTION:-**

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

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

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

8.6.2 **SHUNTING WITHIN STATION SECTION:**

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

8.6.3 **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] **DURING PARTIAL INTERUPTION/FAILURE OF ELECTRICAL COMMUNICATION INSTRUMENT: -**

In the event of suspension of Block Instrument and during partial failure of other available means of communications, trains will be worked in terms of Subsidiary Rule 6.02.06 and Chapter-V & Part – II of Block Working Manual.

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

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 vide SR 6.02.05, which is summarized as follows.

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 advice to wait at the site for a next train to follow or

c) The previous train has met with an accident or has been disabled or

d) The Block ticket has been cancelled from the Loco pilot of the previous train by the official –in-charge at the site and kept in the personal custody & shall be kept until the

arrival of the next train and such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.

e) SM will suspend the Absolute Block System of Working and both SMs concerned should arrange for running of trains on the authority of Block Ticket.

f) SM at the dispatching end will hand over to the Loco Pilot the block Ticket as the authority which shall include:

i. Caution Order: Existing Speed Restriction/s shall be indicated in the Caution Order portion. The Speed Restriction to 15 KMPH during clear visibility and 10 KMPH when visibility is obstructed shall be clearly indicated.

ii. An authority to pass the Stop Signal at "ON" position.

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

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

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

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

[V] **FAILURE OF LV AXLE COUNTER BLOCK/BPAC: -**
Details of the operation are given in Appendix 'B' of SWR.

[VI] **FAILURE OF MTRC:** Not applicable to this station.

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

(i) The detailed Procedure for emergency Crank Handle operation of motor operated points at different lines at the station shall be followed.

Crank handle operation is interlocked with the signaling and interlocking system at this station. Key of crank handles normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals leading over the points are in the Normal position and the route is not locked for whatever reasons. Crank Handle can be released by operating common 'TRANS' When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted to both ends of the yard.

When any point fails to operate normally by the route setting operation from VDU, it is inevitable to operate the points with crank handle. Crank handle keys are interlocked with

signals and interlocking system. The Crank Handle Nos. CH1, CH2, CH3, CH4, CH5, CH6, CH7 & CH8 are provided in the VDU. The CH button has two indications, viz. WHITE, and RED. The WHITE indication suggests that the crank handle key is in its interlocked position of the panel. This is called Crank Handle Key 'IN' indication. The RED indication suggests that the crank handle key is locked and not free for extraction form RKT. This is called 'Crank handle key LOCKED' indication. When there is no light or blank, it suggests that the KEY is out of RKT. The crank handle key in the end locations can be released from the RKT. The SM has to Trans the concerned crank handle icon. This will enable SM/TP/TPM to extract crank handle key CH1, CH2, CH3, CH4, CH5, CH6, CH7 & CH8 from RKT at end location. SS/SM/TPM on duty after extracting the crank handle key from RKT at end-location, insert it in the space provided for it in the point machine and turn it to open up the slot for crank handle. After inserting the crank handle in the point machine, he shall operate it to set the point to desired position. After completion of point work the crank handle key is to be inserted in the RKT at end location and transmitted to station. Station Master on getting 'Key IN' flashing indication that will appear in the VDU shall 'RELEASE' to get the steady key "IN" indication. SM on duty shall personally ensure clamping and padlocking of all facing and trailing points en-route. The cases of failure of Motor operated points should be promptly reported to the concerned ESM/Signal Inspector for immediate rectification. SM on duty as per OM 2.19 shall maintain an emergency crank handle register. The procedure for use of crank handle for Motor operated points shall be followed in terms of operating Manual 2.19.

(ii) **Procedure for emergency operation of points with point zone axle counter/track circuits failure and emergency route release:**

Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit. If such operation is necessary, the SM on duty, after ensuring that SM's point Key is 'IN' and no vehicle is standing on the concerned point zone. (Details of the procedure for working is given in Para No. 5.2 of Appendix-B)

(C) CERTIFICATION OF CLEARANCE OF TRACK BEFORE CALLING–ON SIGNAL OPERATION IN INITIATED: -

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 & others through a memo as per G & SR 3.68.04 & document all such transactions. In case of failure of any one of the systems in dual detection system an occupied (Red) indication will appear in SM's room. While observing the same the on duty SM shall inform the S&T staff for rectification.

The entries in failure register to be done with message to the section controller.

9.1 **TOTAL FAILURE OF COMMUNICATION**

(A) BETWEEN KSNG – TIG & KSNG-KDLR (SINGLE LINE SECTION-3rd Line): SR 6.02.04

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

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

The train which is to be dispatched to the affected section will be stopped and the Loco Pilot and TMR of the train shall be informed about the fact.

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

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

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

As soon as any one of the means of communication has been restored the working during total interrupts of communication 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.

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

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

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

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

(i) Each train before being allowed to enter into the Block Section should be stopped and the TMR and Loco Pilot of the train apprised of the situation.
(ii) The SM will hand over an authority in form T/C 602 for working of train during total interruption of communication to the Loco Pilot of each train which shall include-
  a) Authority to proceed without 'Line Clear'.
  b) Authority to pass the Last Stop Signal at its "ON" position.
  c) A caution order restricting the speed to 25KMPH by day when view ahead is clear and 10KMPH by night or when view ahead is not clear.
(iii) No train shall be allowed to enter the Block Section until there is a clear interval of 30minutes between the train about to leave and the train, which has immediately proceeded.
(iv) Fixed signals except the last stop signal may be taken "OFF" for the dispatch of the train and for the reception of the train at the next block station, reception signals may be taken off only after the train has been brought to a stand out side it.
(v) On arrival at the next block station the Loco Pilot shall hand over the authority to proceed with out line clear to the SM on duty who will preserve the same for further inspection.
(vi) Before resuming normal working when any means of communication is established. SM of either end must satisfy that there is no train in the block section. [Refer SR 6.02.03].

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

During temporary single line working, when one line is clear and the other line is obstructed between KESINGA-KANDEL ROAD or KESINGA-TITLAGARH, 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, Assurance about keeping the last stop signal at 'ON' position if the train runs on right line and in case of wrong line all signals are to be kept at 'ON' position etc under the exchange of Private Number.
(d) SM on duty at the other end of the block section will acknowledge the message and confirm the same by a Private Number.
(e) After obtaining line clear for the train from the advance station the Loco Pilot must be given as-.

(i) Authority for Temporary Single Line (TSL) working on double line (T-D/602) indicating there in
- Caution order
- The line on which single line working is introduced.
- The kilometer of obstruction.
- Any other speed restriction, if any existing.
- Endorsement to inform all Gang man and Gatekeeper about the single line working (for the first train only).
- The speed of the first train to be restricted to 25 KMPH subject to other speed restriction.
- Authority to pass Signal in "ON" position

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

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

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

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

9.3 DISPATCH OF TRAIN UNDER AUTHORITY TO PROCEED WITHOUT LINE CLEAR OR TO ASSIST THE CRIPPLED TRAIN:-

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

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

a) The previous Block Ticket is collected and Cancelled or
b) Necessary endorsement is given on the previous block ticket with the advise to wait at the site for a next train to follow or
c) The previous train has met with an accident or has been disabled or
d) The Block ticket has been cancelled from the Loco Pilot of the previous train by the official –in-charge at the site and kept in the personal custody & shall be kept until the arrival of the next train and such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.
e) SM will suspend the Absolute Block System of Working and both SMs concerned should arrange for running of trains on the authority of Block Ticket.
f) SM at the dispatching end will hand over to the driver the block Ticket 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.
   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)]

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

10. **VISIBILITY TEST OBJECT**: -

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

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

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

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

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

STATION DETONATOR REGISTER (OPT/124)

A Register regarding detonator is maintained at the station.

INSTRUCTIONS:

(a) This register contains the following parts.

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

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

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

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

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

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

CERTIFICATE:-

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

S. SAINI
DSTE(SIG)/SBP

LINGARAJ GARTIA
DOM(G)/SBP

LIST OF APPENDICES

APPENDIX 'A'	-	WORKING OF L.C. GATES.
APPENDIX 'B'	-	SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION.
APPENDIX 'C'	-	ANTI COLLOISION DEVICE (RAKSHA KAVACH).
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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 "B2" CLASS ENGG. NON-INTERLOCKED LEVEL CROSSING GATE No. RV-168 AT KM 209/17-19(UP), 209/18-20 (DN), 209/18A-20A (3RD Line) IN BETWEEN KSNG-TIG STATIONS.

1.1 GENERAL INSTRUCTIONS: -

1.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of level crossing gate	:	RV-168
2.	Engineering or Traffic Gate	:	Engineering
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)
4.	Location at KM	:	209/17-19(UP), 209/18-20 (DN), 209/18A-20A (3RD Line)
5.	At station	:	----
6.	In between station	:	KSNG-TIG
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Multiple line
9.	Normal position	:	Closed to road traffic
10.	Interlocked/Non-interlocked	:	Non-Interlocked
11.	Means of interlocking	:	Nil
12.	Provision of gate Signal at Kms	:	Nil
13.	Signaling arrangement	:	Nil
14.	Means of communications / Telephone with or without Voice logger	:	Voice logger Telephone with gate from the SM Office /KSNG.
15.	Width of Level Crossing Gate	:	7.5 MTRS
16.	Type of Road (NH/SH/Others)	:	Others
17.	Name of Road	:	Village Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	5.5 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	Nil
22.	Road Gradient (if any)	:	(a) East/North side – Level upto 11m from center line of 3rd line track then (1 in 30)
		:	(b) West/South side – Level upto 11m from center line of 3rd line track then (1 in 30)
23.	Road alignment (straight/curve)	:	(a) East/North side – Straight (b) West/South side - Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Winch Operated Lifting barrier
26.	Length of check Rail	:	9.5 MTRS.
27.	Road surface in between LC gates.	:	CC BLOCK
28.	Length of Rumble strip/speed breakers.	:	5.5 MTRS
29.	Road Signs	:	Provided

30.	Speed breakers indication board	:	Provided.
31.	TVU	:	17557 on 11/2024
32.	Census next due on	:	11/2027
33.	Demarcation for placement of detonators.	:	Provided.
34.	No. of Gatekeepers working	:	02 (12 Hours shift)
35.	Nearest Railway Medical Assistance	:	TIG
36.	Nearest Private Medical Assistance available (if any)	:	KSNG
37.	List of equipment available Yes / No.	:	YES

1.2. **EQUIPMENT**:

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

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

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

ix) Records of last census of road traffic at LC gate.
x) Public complaint Book.
xi) Inspection Book.

1.4 **DUTIES OF GATEKEEPER**:

1. ALERTNESS:

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

2. POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATE KEEPER:

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

xvii) Gatekeeper on electrified section shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the Level crossing gate.

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

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN:

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

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

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

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

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

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

vi) In case the train does not stop, Gate Keeper shall immediately inform the Station Master/KSNG to take appropriate action, under exchange of private number.

5. ACTION IN AN EMERGENCY AT THE LC GATE:

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

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

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

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

(A) ON ELECTRIFIED SECTION:

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

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

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

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

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

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

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

iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

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

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

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

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

(C) PROTECTION ON SINGLE LINE SECTION:

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

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

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

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

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

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

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

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

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

i) If all lines are obstructed, the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away (in the direction from which train comes in UP and DN line and in both direction for third line) on posts duly provided for the purpose. He shall first protect the line on which train is expected to arrives first.

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

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

iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one

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

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

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

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

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

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

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

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

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

1.5 ENGINEERING ITEMS:

i) Visibility:-

Direction	Side	Visibility Distance
UP	Right	1000 m
	Left	250 m
DN	Right	150 m
	Left	1000 m
3rd line	Right	150 m
	Left	1000 m

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

iii) Periodical Census of traffic has been taken and the latest TVU is 17557 on 11/2024.

1.6 SPECIAL INSTRUCTIONS-

1. MODE OF OPERATION:-

This is a Manned & Non-interlocked Engineering L.C. Gate situated at Km 209/17-19(UP), 209/18-20(DN) and 209/18A-20A (3^{RD} line) in between KSNG-TIG Stations. This gate is provided with winch operated coupled lifting barriers and the gate is closed/ opened by the gatekeeper manually by winch operation. Telephone communication is provided between the L C. gate lodge with SM office of KSNG station. The level crossing gate is normally kept closed and locked against road traffic. The Station Master/ KSNG shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gatekeeper supported by exchange of private number. When the gatekeeper desires to open the gate for passage of road traffic he should ensure that no PN has been exchanged with the Station Master/ KSNG for the passage of train or the whole

of the train with last vehicle indicator has passed over the level crossing gate for which the gatekeeper has exchanged private number with the SM/KSNG. Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate.

2. EXCHANGE OF PRIVATE NUMBERS:

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

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

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

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

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

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

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

1.7. **<u>FAILURE OF TELEPHONIC COMMUNICATION</u>:**

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

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

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

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

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

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

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

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

i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
ii) Immediately after this, the gatekeeper shall advise the Station Master/KSNG on duty, regarding the defects/obstruction at the gate, under exchange of private number.
iii) Station Master/KSNG on duty shall be advised to put the reception/departure signals back to ‘ON’ position, if taken ‘OFF’ for a train.
iv) If there is no response from the Station Master/KSNG after two or three attempts, he shall first protect the gate and then inform on phone.
v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gatekeeper under item No.1.4. (5).
vi) Thereafter he shall protect the gate from the other direction also.
vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the Station Master/KSNG who shall not start the trains unless he has been assured by the gatekeeper that the road vehicle or the lifting barriers are not fouling the track.

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

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

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

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

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

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

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gatekeeper, the gatekeeper and Station Master/KSNG will adopt the procedure given under item No. 1.9 above. If the obstruction fouls the level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstruction.

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

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

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

<u>CERTIFICATE</u>: -

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

2.0 GATE WORKING INSTRUCTIONS OF "B1" CLASS ENGG. NON-INTERLOCKED LEVEL CROSSING GATE No. RV-169 AT KM 210/29-31(UP), 210/30-32 (DN), 210/30A-32A (3RD Line) IN BETWEEN KSNG-TIG STATIONS.

2.1 GENERAL INSTRUCTIONS: -

2.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of level crossing gate	:	RV-169
2.	Engineering or Traffic Gate	:	Engineering
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)/TIG
4.	Location at KM	:	210/29-31(UP), 210/30-32(DN), 210/30A-32A (3RD Line)
5.	At station	:	----
6.	In between station	:	TIG-KSNG
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Multiple line
9.	Normal position	:	Closed to road traffic
10.	Interlocked/Non-interlocked	:	Non-Interlocked
11.	Means of interlocking	:	Nil
12.	Provision of gate Signal at Kms	:	Nil
13.	Signaling arrangement	:	Nil
14.	Means of communications /Telephone with or without Voice logger	:	Voice logger Telephone with gate from the SM Office /KSNG.
15.	Width of Level Crossing Gate	:	7.5 MTRS
16.	Type of Road (NH/SH/Others)	:	Others
17.	Name of Road	:	Village Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	5.5 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	Nil
22.	Road Gradient (if any)	:	(a) East/North side – Level up to 11m from center line of 3rd line track then (1 in 30)
		:	(b)West/South side– Level up to 11m from center line of 3rd line track then (1 in 30)
23.	Road alignment (straight/curve)	:	(a) East/North side – Straight (b) West/South side - Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Winch Operated Lifting barrier
26.	Length of check Rail	:	9.5 MTRS.
27.	Road surface in between LC gates.	:	CC BLOCK
28.	Length of Rumble strip/speed breakers.	:	5.5 MTRS
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Provided.
31.	TVU	:	29433 on 11/2024
32.	Census next due on	:	11/2027
33.	Demarcation for placement of detonators.	:	Provided.
34.	No. of Gatekeepers working	:	02 (12 Hours shift)

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

2.2. **EQUIPMENT**:

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

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

2.4 **DUTIES OF GATEKEEPER**:

1. ALERTNESS:

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

2. POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATE KEEPER:

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

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN:

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

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

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

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

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

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

vi) In case the train does not stop, Gate Keeper shall immediately inform the Station Master/KSNG to take appropriate action, under exchange of private number.

5. ACTION IN AN EMERGENCY AT THE LC GATE:

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

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

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

THE GATE KEEPER SHALL PROTECT THE LINE AS UNDER: -

(A) ON ELECTRIFIED SECTION:

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

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

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

(B) PROTECTION ON DOUBLE LINE:-

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

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

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

iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in10 meters apart. Having thus protected

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

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

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

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

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

(C) PROTECTION ON SINGLE LINE SECTION:

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

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

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

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

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

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

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

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

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

i) If all lines are obstructed, the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away (in the direction from which train comes in UP and DN line and in both direction for third line) on posts duly provided for the purpose. He shall first protect the line on which train is expected to arrives first.

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

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

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

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

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

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

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

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

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

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

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

2.5 ENGINEERING ITEMS:

i) Visibility:-

Direction	Side	Visibility Distance
UP	Right	1000 m
	Left	2000 m
DN	Right	2000 m
	Left	1000 m
3rd line	Right	2000 m
	Left	1000 m

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

iii) Periodical Census of traffic has been taken and the latest TVU is 29433 on 11/2024.

2.6 **SPECIAL INSTRUCTIONS-**

1. MODE OF OPERATION:-

This is a Manned & Non-interlocked Engineering L.C. Gate situated at Km 210/29- 31 (UP) KM 210/30- 32(DN), KM.210/30A-32A (3^{RD} LINE) in between KSNG-TIG Stations. This gate is provided with winch operated coupled lifting barriers and the gate is closed/opened by the gatekeeper manually by winch operation. Telephone communication is provided between the L C. gate lodge with SM office of KSNG station. The level crossing gate is normally kept closed and locked against road traffic. The Station Master/ KSNG shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gatekeeper supported by exchange of private number. When the gatekeeper desires to open the gate for passage of road traffic he should ensure that no PN has been exchanged with the Station Master/ KSNG for the passage of train or the whole of the train with last vehicle indicator has passed over the level crossing gate for which the gatekeeper has exchanged private number with the SM/KSNG. Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate.

2. EXCHANGE OF PRIVATE NUMBERS:

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

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

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

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

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

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

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

2.7. **<u>FAILURE OF TELEPHONIC COMMUNICATION</u>:**

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

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

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

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

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

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

vi) The SM shall advise the GK through gang man/patrol man or the LP of the first train that the telephone has become defective.
vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection/fit memo for the same.

2.8 FAILURE OF LIFTING BARRIERS:-

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

2.9 OBSTRUCTION AT THE GATE:-

i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
ii) Immediately after this, the gatekeeper shall advise the Station Master/KSNG on duty, regarding the defects/obstruction at the gate, under exchange of private number.
iii) Station Master/KSNG on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.
iv) If there is no response from the Station Master/KSNG after two or three attempts, he shall first protect the gate and then inform on phone.
v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gatekeeper under item No.2.4. (5).
vi) Thereafter he shall protect the gate from the other direction also.
vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the Station Master/KSNG who shall not start the trains unless he has been assured by the gatekeeper that the road vehicle or the lifting barriers are not fouling the track.
viii) The Station Master/KSNG shall also inform the Station Master/TIG at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.
ix) After the track has been cleared of all obstructions the gatekeeper shall inform the Station Master/KSNG accordingly, under exchange of private number.

x) Gatekeeper shall secure the gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the gate is not obstructed.
xi) Station Master/KSNG shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
xii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.

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

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gatekeeper, the gatekeeper and Station Master/KSNG will adopt the procedure given under item No. 2.9 above. If the obstruction fouls the level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstruction.

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

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

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

<u>CERTIFICATE</u>: -

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

3.0 GATE WORKING INSTRUCTIONS FOR 'B2' CLASS ENGG. NON-INTERLOCKED LEVEL CROSSING GATE No. RV-171 AT KM 212/11-13 (UP) KM 212/12-14 (DN) KM. 212/12A-14A (3RD LINE) IN BETWEEN KSNG-TIG STATIONS.

3.1 GENERAL INSTRUCTIONS-

3.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of level crossing gate	:	RV-171
2.	Engineering or Traffic Gate	:	Engineering
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)/TIG
4.	Location at KM	:	212/11-13 (UP), 212/12-14 (DN), 212/12A-14A (3RD Line)
5.	At station	:	----
6.	In between station	:	TIG-KSNG
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Multiple line
9.	Normal position	:	Close to road traffic
10.	Interlocked/Non-interlocked	:	Non-Interlocked
11.	Means of interlocking	:	Nil
12.	Provision of gate Signal at Kms	:	Nil
13.	Signaling arrangement	:	Nil
14.	Means of communications /Telephone with or without Voice logger	:	Voice logger Telephone with gate from the SM Office /KSNG
15.	Width of Level Crossing Gate	:	7.5 MTRS
16.	Type of Road (NH/SH/Others)	:	Others
17.	Name of Road	:	Village Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	5.5 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	Nil
22.	Road Gradient (if any)	:	(a) East/North side – Level upto 11m from center line of 3rd line track then(1 in 30)
		:	(b) West/South side – Level upto 11m from center line of 3rd line track then(1 in 30)
23.	Road alignment (straight/curve)	:	(a) East/North side – Straight (b) West/South side - Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Winch Operated Lifting barrier
26.	Length of check Rail	:	9.5 MTRS.
27.	Road surface in between LC gates.	:	CC BLOCK
28.	Length of Rumble strip/speed breakers.	:	5.5 MTRS
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Provided.
31.	TVU	:	18877 on 11/2024
32.	Census next due on	:	11/2027
33.	Demarcation for placement of detonators.	:	Provided.

34.	No. of Gatekeepers working	:	02 (12 Hours shift)
35.	Nearest Railway Medical Assistance	:	TIG
36.	Nearest Private Medical Assistance available (if any)	:	KSNG
37.	List of equipment available Yes / No.	:	YES

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

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

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

3.4 **DUTIES OF GATEKEEPER**:

1. **ALERTNESS:**

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

2. POSITION OF GATE KEEPER DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATE KEEPER:

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

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN:

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

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

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

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

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

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

vi) In case the train does not stop, Gate Keeper shall immediately inform the Station Master/ KSNG to take appropriate action, under exchange of private number.

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

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

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

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

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

(A) ON ELECTRIFIED SECTION:

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

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

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

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

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

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

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

iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in10 meters apart. Having thus protected

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

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

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

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

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

(C) PROTECTION ON SINGLE LINE SECTION:

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

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

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

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

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

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

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

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

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

i) If all lines are obstructed, the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away (in the direction from which train comes in UP and DN line and in both direction for third line) on posts duly provided for the purpose. He shall first protect the line on which train is expected to arrives first.

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

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

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

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

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

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

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

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

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

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

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

3.5 ENGINEERING ITEMS:

i) Visibility:-

Direction	Side	Visibility Distance
UP	Right	2000 m
	Left	2000 m
DN	Right	2000 m
	Left	2000 m
3rd line	Right	2000 m
	Left	2000 m

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

iii) Periodical Census of traffic has been taken and the latest TVU is 18877 on 11/2024.

3.5 **SPECIAL INSTRUCTIONS-**

1. MODE OF OPERATION:-

This is a Manned & Non-interlocked Engineering L.C. Gate situated at Km 212/11-13 (UP) KM 212/12-14 (DN) km. 212/12A-14A (3RD Line) in between KSNG-TIG Stations. This gate is provided with winch operated coupled lifting barriers and the gate is closed/opened by the gatekeeper manually by winch operation. Telephone communication is provided between the L C. gate lodge with SM office of KSNG station. The level crossing gate is normally kept closed and locked against road traffic. The Station Master/ KSNG shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gatekeeper supported by exchange of private number. When the gatekeeper desires to open the gate for passage of road traffic he should ensure that no PN has been exchanged with the Station Master/ KSNG for the passage of train or the whole of the train with last vehicle indicator has passed over the level crossing gate for which the gatekeeper has exchanged private number with the SM/KSNG. Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate.

2. EXCHANGE OF PRIVATE NUMBERS:

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

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

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

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

a) He has not exchanged any private number with the SM / KSNG as per (ii) above.

b) If he has exchanged private number with the Station Master / KSNG , the whole of the train with last vehicle indicator has passed over the level crossing gate and Station Master / KSNG has not exchanged private number with him for any other movement immediately in rear of the train.

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

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

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

3.7 FAILURE OF TELEPHONIC COMMUNICATION:

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

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

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

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

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

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

vi) The SM shall advise the GK through gang man/patrol man or the LP of the first train that the telephone has become defective.
vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection/fit memo for the same.

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

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

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

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

i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
ii) Immediately after this, the gatekeeper shall advise the Station Master/ KSNG on duty, regarding the defects/obstruction at the gate, under exchange of private number.
iii) Station Master/ KSNG on duty shall be advised to put the reception/departure signals back to ‘ON’ position, if taken ‘OFF’ for a train.
iv) If there is no response from the Station Master/ KSNG after two or three attempts, he shall first protect the gate and then inform on phone.
v) Gatekeeper shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gatekeeper under item No.3.4. (5).
vi) Thereafter he shall protect the gate from the other direction also.
vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and reply these details to the Station Master/ KSNG who shall not start the trains unless he has been assured by the gatekeeper that the road vehicle or the lifting barriers are not fouling the track.
viii) The Station Master/ KSNG shall also inform the Station Master/TIG at the dispatching end, under exchange of private number, asking him not to dispatch any train into the block section from his end, until the track has been cleared of all obstructions.
ix) After the track has been cleared of all obstructions the gatekeeper shall inform the Station Master/ KSNG accordingly, under exchange of private number.

x) Gatekeeper shall secure the gate against road traffic by means of safety chains and padlocks and thereafter exhibit green hand signal, if the gate is not obstructed.
xi) Station Master/ KSNG shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
xii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers and issue reconnection/fit memo for the same.

3.10. **OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE**:
If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gatekeeper, the gatekeeper and Station Master/KSNG will adopt the procedure given under item No. 3.9 above. If the obstruction fouls the level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstruction.

3.11 ACCIDENTAL ROLLING DOWN OF TRAINS:
When the Gate Keeper observes that a train is rolling down or immediately after receipt of the information about accidental rolling down of the train the gatekeeper shall:
i) First close the gate against the road traffic.
ii) Then immediately inform the SM on Duty.
iii) He shall not open the gate till he ensured that the train has completely stopped.

<u>CERTIFICATE</u>: -
NOTHING IN THESE RULES SHALL BE READ AS CANCELLING, AMENDING AND MODIFYING ANY OF THE RULES IN GENERAL RULES, SUBSIDIARY RULES, BLOCK WORKING MANNUAL AND OPERATING MANNUAL

4.0 GATE WORKING INSRTUCTIONS OF "C" CLASS TRAFFIC INTERLOCKED LEVEL CROSSING GATE NO. RV-172 AT KM 215/7-9(UP) KM215/8-10(DN) 215/8A-10A(3RD LINE) IN KSNG YARD AT TITLAGARH END.

4.1 GENERAL DESCRIPTION:-

4.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of Level Crossing Gate:	RV-172
2.	Engineering or Traffic Gate:	Traffic
3.	Under control of Station Master / SSE(P.WAY)	SS/KSNG
4.	Location at KM:	215/7-9 (UP), 215/8-10(DN) 215/8A-10A(3RD Line)
5.	At Station:	KSNG
6.	In between stations:	KSNG-TIG
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	Key transmission
12.	Provision of Gate signal at Kms.	Interlocked with station signals.
13.	Signaling arrangements:	MACLS
14.	Means of communications /Telephone with or without Voice logger	Telephone connection with Gate from SM Office/KSNG
15.	Width of level crossing gate:	9.5 M.
16.	Type of road (NH/SH/Others):	NH
17.	Name of Road:	NH 201
18.	Metalled / non-metalled:	Metalled.
19.	Approach road:	Metalled
20.	Width of the road:	7.5 M
21.	Angle of road crossing (in case of the skew gates):	----
22.	Road gradient (if any)	(a)East/North side: Level. (b)West/South side: Level.
23.	Road alignment (straight/curve)	(a) East/North side: Straight (b) West/South side: Straight
24.	Provision of height gauges:	Provided
25.	Type of Barriers:	Electrically Operated Lifting Barrier with sliding boom
26.	Length of Check rails:	11.5 M
27.	Road surface in between LC gates:	C.C Block
28.	Length of Rumble strip / speed breakers:	9.5 M
29.	Road signs:	Provided
30.	Speed breaker indication board:	Provided
31.	TVU:	488 on 11/2024
32.	Census next due on:	11/2027
33.	Demarcation for placement of Detonators:	Provided
34.	No. of Gatekeepers working:	02 (12 Hours Shift)
35.	Nearest Railway Medical Assistance	TIG
36.	Nearest Private Medical Assistance available (if any):	KSNG
37.	List of equipment available Yes / No:	Yes

4.2 EQUIPMENTS TO BE AVAILABLE AT THE GATE

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

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

4.4 **DUTIES OF GATE KEEPER**:

1. **ALERTNESS:**

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

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

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

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

3. **ROUTINE DUTIES OF GATEKEEPER**:

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

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

xix) In the event of gate signal becoming defective the gatekeeper shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

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

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

iii) If Loco Pilot/TMR fails to take notice, Gatekeeper shall immediately inform the Station Master on duty to take appropriate action, under exchange of private number.

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

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

vi) In case the train does not stop, Gatekeeper shall immediately inform the Station Master, to take appropriate action, under exchange of private number.

5. <u>ACTION IN AN EMERGENCY AT THE LC GATE;-</u>

i) In case of an obstruction at the level crossing gate, Gate Keeper shall maintain the gate signals, if any, in the 'ON' position by normalizing slot switch/signal knob.

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

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

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

(A) ON ELECTRIFIED SECTION:

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

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

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

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

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

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

iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
v) Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
vii) In case the Gate Keeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(C) PROTECTION ON SINGLE LINE SECTION:

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

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

i) If all lines are obstructed, the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away (in the direction from which train comes in UP and DN line and in both direction for third line) on posts duly provided for the purpose. He shall first protect the line on which train is expected to arrives first.
ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.

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

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

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

4.5 **ENGINEERING ITEMS: -**

(i) Visibility: -

Direction	Side	Visibility Distance
UP	Right	1000 m
	Left	1000 m
DN	Right	1000 m
	Left	1000 m
3rd line	Right	1000 m
	Left	1000 m

ii) Speed Breaker: - Speed Breakers of approved design are provided on either side of this Level Crossing gate.
iii) Periodical Census of traffic has been taken and the latest TVU is 488 on 11/2024

4.6 **SPECIAL INSTRUCTIONS**

1. **MODE OF OPERATION**:

This is an interlocked L.C. Gate situated at the TITLAGARH end of the yard in between Outermost point and UP advanced starter signal of KSNG station. Telephone communication is provided between the L C. gate lodge and SM office of KSNG Station. The level crossing gate is of lifting barrier type and motor operated by means of motor

from panel provided at the gate lodge. The normal position of the gate is open to road traffic. The key "K" of the LC normally remains locked in the Panel when the gate is in open condition.

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

After passage of the Train, the SM on duty shall inform the gatekeeper and press LC gate controlling button No.63 and the gate keeper extracts the control key 'K' from the EKT-2 and insert in EKT-1. During reception of down train once LC Gate is closed and Key 'K' is transmitted electrically to SM, Gate control-63 can be released after passing of trains through sequential occupation and clearance of concerned track circuits . Keeping the switch GS in normal position the gate keeper will get a gate free indication on panel and subsequently the gate can be opened by pressing the GREEN push button till gate is fully opened. The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01 (a).

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

In case of Emergency/ failure in extracting key-K from EKT, one emergency key 'L' mechanically free & electrically proved is provided in a red sealed glass box and the barriers are to be opened by manual operation of lifting barriers by crank handling. Concerned signals will be put back to "ON" position when emergency key "L" is extracted from EKT-3. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gateman. During DN Home reception, once L.C. gate is closed & key "K" is transmitted electrically to SM, gate controll No.-63 can be released after passage of train through sequential occupation & clearance of concerned Track circuits.

MODE OF OPERATION OF SLIDING BARRIERS

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

EMERGENCY RELEASE OF GATE KEY

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

a) Station Master on duty shall first cancel the signal by signal cancellation control of the relevant signal.
b) Station Master on duty then shall click on the 'Emergency gate release control' in the gate pop up menu.
c) The 'Red' locked indication will flash for 120 seconds and after the time has elapsed the 'Red" indication will disappear.
d) Station Master on duty then shall transmit 'Gate Control' by clicking 'Transmit control' (63).
e) The 'Key In' indication (white) starts flashing suggesting the key is transmitted to Gate keeper.
f) At gate lodge an indication will appear near RKT suggesting that the key can be released from the RKT for opening of the LC gate.
g) Seeing the indication gate keeper on duty shall extract the key from RKT and operate the gate.
h) On release of key from RKT flashing indication will disappear.

Any failure regarding transmission / extraction of gate key shall be intimated to the S&T officials for proper rectification. Till such time the failure is rectified the Station Master on duty shall pass the trains by P/IN or by P/OUT as the case may be.

2. **INTIMATION TO GATEKEEPER-**

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

4.7 **FAILURE OF TELEPHONIC COMMUNICATION**:

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

i) Station Master on duty /KSNG shall send written advice to the Gate Keeper through the porter with full details of number, description and direction of the train.
ii) Gate Keeper on receipt of such advice shall close the gate and transmit the key to the Station Master, which will enable him to take 'OFF' reception/Departure signals.
iii) When sufficient time is not available because of greater frequency of train service, station Master/ KSNG will issue written authority to the train Loco Pilot to pass the signal at 'ON' position.
iv) In addition, Station Master/ KSNG shall also issue a caution order advising the Loco Pilot to whistle continuously and approach the gate cautiously.
v) The train Loco Pilot shall be instructed to pass the gate cautiously, on before signaled by the gatekeeper. If hand signal is not seen, Loco Pilot should be prepared stop short of the gate and ensure that gate is closed following GR.3.73.
vi) In case of an approaching train, the Station Master/ KSNG shall advise the SM/TIG under exchange of private number, that the telephone at the gate has failed.

vii) The station Master/TIG shall then issue a caution order to the Loco Pilot before dispatching a train into the block section from his end.
viii) He should also advise S&T staff responsible for maintenance of the telephone rectify the defect at the earliest.
ix) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection /fit memo for the same.

4.8 **FAILURE OF LIFTING BARRIERS:**

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

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

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

(i) If the gate cannot be opened then gatekeeper must immediately inform the Station Master on duty on telephone, under exchange private number.
(ii) For emergency opening of gate, An emergency key 'L' is provided in EKT-3 at gate lodge which is kept in the red sealed glass box. This emergency key 'L' is mechanically free and electrically proved for extraction in case of an emergency. The gatekeeper will extract the mechanically free emergency key 'L' from EKT-3 by break opening the glass box and sealed, for manual operation of lifting barrier by crank handling for opening the gate. On extraction of key 'L' concerned signals will be put back to ON position. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gatekeeper.
(iii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.
(iv) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
(v) He shall also advise the Station Master at the other end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.

(vi) Station Master shall advise S & T staff responsible for maintenance of transmitter to rectify the defect at the earliest.

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

4.10 <u>FAILURE OF GATE WHEN THE GATE IN OPEN CONDITION</u>:

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

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

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

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

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

vi) Station Master shall advise S & T staff responsible for maintenance of pedestal/gate operating panel/key transmitter to rectify the defect at the earliest

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

4.11 OBSTRUCTION AT THE GATE:-

i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gatekeeper shall immediately normalize GS switch to put back concerned signals and then fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.

ii) Immediately after this, the gatekeeper shall advise the Station Master/ KSNG on duty, regarding the defects/obstruction at the gate, under exchange of private number.

iii) Station Master/ KSNG on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.

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

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

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

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

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

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

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

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

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

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

4.12 OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gatekeeper and Station Master will adopt the procedure given under item No.4.11 above. If the obstruction fouls the Level Crossing Gate, gatekeeper must keep the gates closed against road traffic till the track is cleared of the obstruction.

4.13 ACCIDENTAL ROLLING DOWN OF TRAIN:

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

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

<u>CERTIFICATE</u>: -

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

5.0 GATE WORKING INSRTUCTIONS OF "SPL" CLASS ENGINEERING INTERLOCKED LEVEL CROSSING GATE NO. RV-175 AT KM 218/15-17(UP) KM 218/16-18(DN) 218/16A-18A (3RD LINE) IN BETWEEN KSNG-KDLR STATIONS.

5.1. GENERAL DESCRIPTION:-

5.1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of level crossing gate	:	RV-175
2.	Engineering or Traffic Gate	:	Engineering
3.	Under control of Station Master or SSE(P.WAY)	:	SSE(P.WAY)KSNG
4.	Location at KM	:	218/15-17(UP), 218/16-18(DN) 218/16A-18A(3rd Line)
5.	At station	:	----
6.	In between station	:	KSNG-KDLR
7.	BG/MG/NG	:	BG
8.	Single line/Doubling Line/Multiple Line	:	Multiple line
9.	Normal position	:	Open to road traffic
10.	Interlocked/Non-interlocked	:	Interlocked
11.	Means of interlocking	:	Panel interlocking, UP & DN gate stop signals.
12.	Provision of gate Signal at Kms	:	UP Line: KM 218/9-11 DN Line: KM 218/22-24 UP(3rd Line)KM 218/9-11 DN(3rd Line)KM 218/22-24
13.	Signaling arrangement	:	UP & DN Gate stop signals and Distant signals.
14.	Means of communications /Telephone with or without Voice logger	:	Telephone connection with gate from the SM Office /KSNG
15.	Width of Level Crossing Gate	:	7.5 MTRS
16.	Type of Road (NH/SH/Others)	:	Others
17.	Name of Road	:	Village Road
18.	Metaled/Non Metaled	:	Metaled
19.	Approach Road	:	Metaled
20.	Width of the Road	:	5.5 MTRS.
21.	Angle of Road Crossing (in case of the SKEW gates)	:	86 (L H Curve)
22.	Road Gradient (if any)	:	(a) East/North side – Level
		:	(b) West/South side – Level
23.	Road alignment (straight/curve)	:	(a) East/North side – Straight (b) West/South side - Straight
24.	Provision of height gauge	:	Provided
25.	Type of Barrier	:	Electrically Operated Lifting barrier
26.	Length of check Rail	:	9.5 MTRS.
27.	Road surface in between LC gates.	:	C.C Block
28.	Length of Rumble strip/speed breakers.	:	7.5 MTRS
29.	Road Signs	:	Provided
30.	Speed breakers indication board	:	Provided.
31.	TVU	:	88026 on 12/2024
32.	Census next due on	:	12/2027

33.	Demarcation for placement of detonators.	:	Provided.
34.	No. of Gatekeepers working	:	03 (08 Hours shift)
35.	Nearest Railway Medical Assistance	:	TIG
36.	Nearest Private Medical Assistance available (if any)	:	KSNG
37.	List of equipment available Yes / No.	:	YES

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

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

5.3 **<u>RECORDS TO BE KEPT AT GATE LODGE:</u>**

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

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

5.4 **DUTIES OF GATE KEEPER**:

1. **ALERTNESS:**

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

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

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

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

3. **ROUTINE DUTIES OF GATEKEEPER**:

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

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

xix) In the event of gate signal becoming defective the gatekeeper shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE OF TRAIN.

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

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

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

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

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

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

vi) In case the train does not stop, Gate Keeper shall immediately inform the Station Master to take appropriate action, under exchange of private number.

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

i) In case of an obstruction at the level crossing gate, gatekeeper shall maintain the gate signals, if any, in the 'ON' position by normalizing slot switch/signal knob.

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

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

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

(A) ON ELECTRIFIED SECTION:

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

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

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

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

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

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

iii) Gatekeeper shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
iv) Gatekeeper shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track in10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
v) Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
vii) In case the Gate Keeper observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
viii) Thereafter, he shall warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(C) PROTECTION ON SINGLE LINE SECTION:

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

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

i) If all lines are obstructed, the Gatekeeper shall plant a red banner flag by day and a red light by night 5 meters away (in the direction from which train comes in UP and DN line and in both direction for third line) on posts duly provided for the purpose. He shall first protect the line on which train is expected to arrives first.
ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.

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

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

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

5.5 ENGINEERING ITEMS:

i) Visibility:-

Direction	Side	Visibility Distance
UP	Right	850 m
	Left	790 m
DN	Right	750 m
	Left	740 m
3RD LINE	Right	750 m
	Left	750 m

ii) Speed Breaker:- Speed Breakers of approved design are provided on either side of this level Crossing gate.
iii) Periodical Census of traffic has been taken and the latest TVU is 88026 on 12/2024

5.6 SPECIAL INSTRUCTIONS

1. **MODE OF OPERATION**:

This is an interlocked L.C. Gate situated at Km 218/15-17 (UP), km 218/16-18 (DN) Km. 218/16A-18A (3RD Line) in between Kesinga and Kandel Road stations. Telephone communication is provided between the L C. gate lodge and SM office of KSNG Station. The level crossing gate is of lifting barrier type and motor operated by means of motor from panel provided at the gate lodge. The normal position of the gate is open to road traffic. The

key "M" of the LC normally remains locked in the RKT when the gate is in open condition. When it is necessary to close the gate, for taking off gate signals for the trains passing, the SM on duty shall inform the gate keeper to close and lock the gate and take off concerned signals. The gate keeper on duty shall close the barriers of the LC gate by operating the RED push button provided on the panel. Gate keeper will keep the red push button till gate is closed & locked against road traffic and the red indication appears on the panel. Then key 'M' is to be extracted from EKT-1 and inserted in EKT-2 and turned. Key IN contact of EKT-2 along with reversal of concerned gate signal switches to take off gate signals i.e (a) Switch GS-3 releases UP Gate signal No.3 of UP line. (b) Switch GS-4 releases DN Gate signal No.GS 4 of DN line (c) Switch GS-5 releases UP Gate signal No.GS-5 of 3rd line (d) Switch GS-6 releases DN Gate signal No.GS-6 of 3rd line.

After passage of the Train, the gatekeeper normal the concerned GS switch and then extracts the control key 'M' from the EKT-2.which can be released after passing of trains through sequential occupation and clearance of concerned track circuits and insert in EKT-1. The gate keeper will get a gate free indication on panel and subsequently the gate can be opened by pressing the GREEN push button till gate is fully opened. The LC gate shall be so worked as to cause least possible inconvenience to the vehicular traffic consistence with safety as per subsidiary rule 16.03.01 (a).

In case of Emergency/ failure in extracting key-M from EKT, gatekeeper will inform SM/KSNG with PN exchange. Then one emergency key 'N' Electro mechanically free provided in a red sealed glass box and the barriers are to be opened by manual operation of lifting barriers by crank handling. Concerned signals will be put back to "ON" position when emergency key "N" is extracted from EKT-3. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gatekeeper.

MODE OF OPERATION OF SLIDING BARRIERS

1. Key 'S' when extracted from lock free EKT 5 makes Road signals danger and activates Road Hooter. Key 'S' unlocks the sliding Barrier- 1.
2. Sliding Barrier -1 to be rolled across the Road up to lock post, Key(Chained With Barrier) releases the lock plunger and Key SB-1 when extracted lock the Sliding Barrier-1.
3. Similarly after unlocking the Pad Lock Sliding Barrier-2 to be rolled across the Road Up to lock post, Key (Chained with Barrier) along with Key SB-1 inserted releases the Lock plunger and Key SB-2. Key SB-2 when extracted lock the Sliding Barrier-2.
4. Finally released Key SB-2 is transmitted in EKT-4 for taking 'OFF' concerned signal by reversing the respective switches.

2. INTIMATION TO GATEMAN-

a) Immediately after a DN train left KDLR or before taking off of UP departure signal SM shall advise the gatekeeper through telephone, the number, description, direction and expected time of the passage of the train at the gate.

b) If the actually running time of the train from either end of the section is less than 10 minutes, SM will convey this advice to the gatekeeper before obtaining /granting line clear.

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

5.7 FAILURE OF TELEPHONIC COMMUNICATION:

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

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

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

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

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

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

(i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gatekeeper must immediately inform the Station Master/KSNG on duty on telephone, under exchange of private number.

(ii) For emergency opening of the gate, he will extract key-N from EKT kept in the red sealed glass box which is mechanically free & electrically proved. Concerned signals will be put back to "ON" position when emergency key is extracted. The date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons by the gatekeeper.

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

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

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

(vi) Station Master/ KSNG shall advise S&T staff responsible for maintenance the key transmitter to repair the same at the earliest.

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

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

(i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gatekeeper must immediately inform the Station Master/ KSNG on duty on telephone, under exchange of private number.

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

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

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

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

(vi) Station Master/ KSNG shall advise S&T staff responsible for maintenance the gate/key transmitter to rectify the same at the earliest.

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

5.11 DEFECTIVE GATE SIGNAL:

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

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

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

5.12 OBSTRUCTION AT THE GATE:

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

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

5.13 OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

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

5.14 ACCIDENTAL ROLLING DOWN OF TRAINS:

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

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

CERTIFICATE: -

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

APPENDIX 'B'

(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:

Kesinga is a Class 'B' station provided with Standard-III (R) Interlocking. The station is provided with Route setting type Electronic Interlocking between points, signals, track circuits and other signaling 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. SI/22213, Alt-A shall be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the station mimic diagram of VDU will be dynamically updated.

3. SYSTEM OVERVIEW

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

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

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

3.1. DUAL VDUs – MODE OF SELECTION:

The privilege has been given to the operator for controlling the station through VDU-1 or VDU-2. With Dual VDU concept, we can control either from A-VDU or B-VDU. VDU Changeover between two System can be done by the following ways.
When the A-VDU is active ONLINE, the SMKEY Status of B-VDU will be in KEYOUT Condition with Red Color

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

2. If ON-LINE VDU is failed, SM shall apply SMKEY IN at Standby VDU. Then the Standby VDU will come to ON-LINE.

The operator VDU is having controls to operate the field gears through the Mimic diagram. A Mimic panel diagram displayed on the operator VDU is an exact replica of yard that suits SI plan.

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

4.1. ICONS AND INDICATIONS PROVIDED ON THE VDU:

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

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1.	PC 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. Icon	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.
5.	Signal failure Ack. icon	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.	

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
7.	SDG CNT-37 icon	Yellow lamp indicates 'KEY IN'. Red lamp indicates ' SDG KEY LOCKED'	In normal condition yellow lamp will be lit. Whenever the Siding Control key is locked in route or otherwise red indication will glow.	
8	'DN Train Entering Section' muting icon	Yellow - acknowledged	SM shall left click on the button icon to acknowledge it.	
9	'UP Train Entering Section' muting icon	Yellow - acknowledged	SM shall left click on the button icon to acknowledge it.	
10	UP Train arrival Ack icon	Yellow – indicates complete train arrived.	On getting indication SM shall left click on the button icon which shall mute the arrival buzzer coming from DLBI.	After complete arrival of train this will be activated
11	DN Block release icon	Yellow – Prepared for Block release.	On getting indication SM shall left click on the button icon which shall release Block Handle.	
12	Line Block icon	Magenta colour when blocked	SS/SS shall point the curser on the icons provided on the berthing track and right click. One drop menu will appear indicating line blocked and un-blocked, SS/Dy. SS has to select the required menu.	When line block is selected the concerned button on the particular line turns to RED.

4.2. <u>PC SM KEY:</u>

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



By clicking the **KEY IN** menu using the left button of the mouse, a Password window will appear. SS/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 KSNG respectively.



Then PC SMKEY 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 A-VDU or B-VDU. VDU Changeover between Two System can be done by the following ways

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

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

4.3.1. K5BMC System Failure Indications:

In PC there are two system failure indications such as ET FL & EI FL. During the failure a Red 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) <u>EI LFL (EI System Low Failure):</u>

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) <u>EI HFL (EI System High Failure):</u>

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.

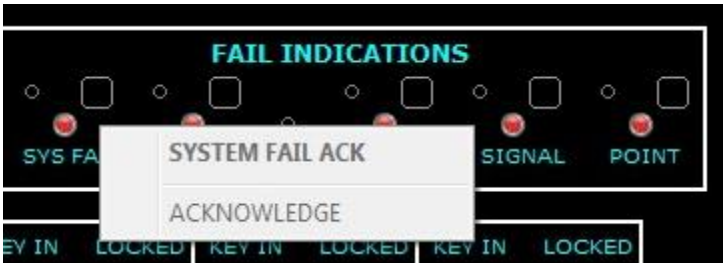
OPC Communication Failure & ET LINE2B status failure indication will be displayed in EI HFL only when the healthy status is not available from both systems.





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.



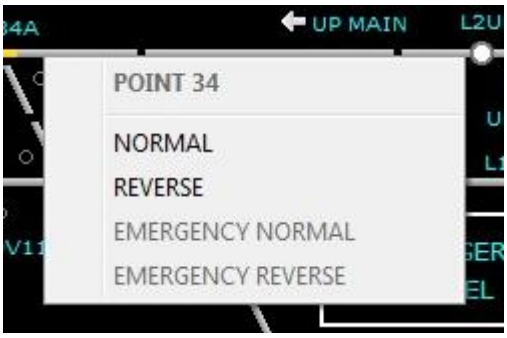


4.4. <u>VDU ACTIVE INDICATIONS</u>:

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

4.5. <u>OPERATION AND INDICATION OF POINT:</u>

To Operate the Point the SM 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:



<u>Figure 1</u>

4.5.1. <u>REVERSE TO NORMAL OPERATION</u>:

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. <u>NORMAL TO REVERSE OPERATION</u>:

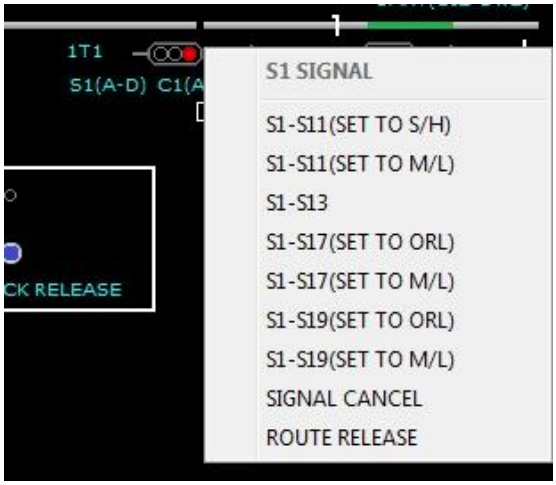
Track the pointer to **REVERSE** menu and click, a Reverse flashing indication will appear, the indication will be steady after the point is set to Reverse.

4.5.3. <u>POINT INDICATIONS:</u>

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.

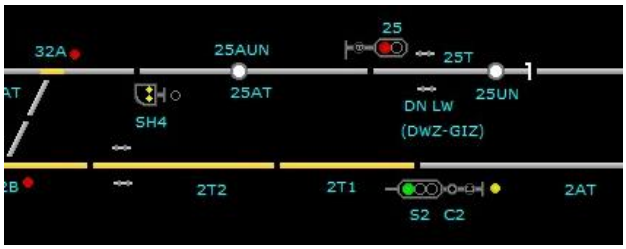
4.6. SIGNAL OPERATION:

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



4.6.1. SETTING A ROUTE:

To set a route of a signal, click on a possible route of the signal, after doing, so a RED colour route initiation indication will be flashing and all the Normal/Reverse set indication of the Points in the route will start flashing if it is not available in required position. After setting of points in the route, overlap and isolation in required condition flashing indication will become steady and a complete yellow 'Route set' indication will appear over the route right from replacement track of the signal to the last track of overlap section of the route. Also the point lock indication will appear through Red indication near the point. Finally a route locked yellow steady indication will appear immediate to rear of the signal. Now the signal will be taken-off. The yellow route set indication will turn to red when the train occupies the concerned track circuit.



Conditions for setting a route:

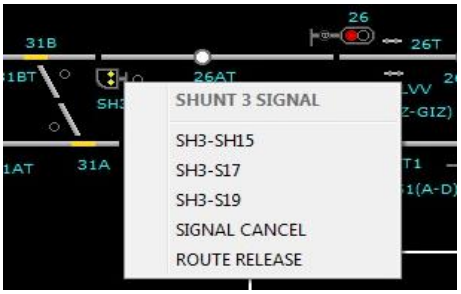
The following condition to be ensured before setting the route by the SM/ ASM.

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/ASM needs to track the mouse pointer over the concerned shunt

Signal on the VDU, after clicking the left button on the mouse a popup menu will appear as below:



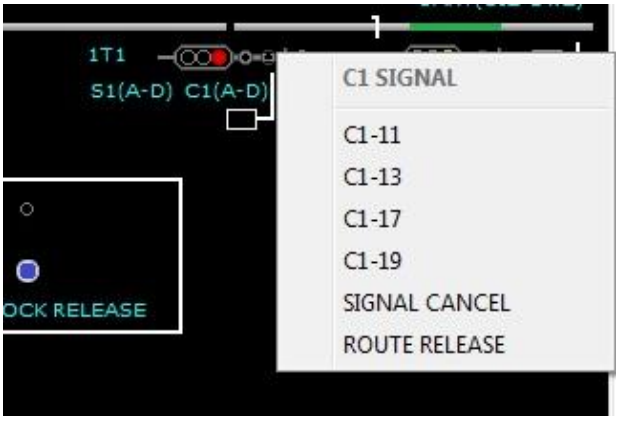
Then click the button of mouse on the required route on pop-up menu. After doing so, desired route will be initiated and the Shunt signal will be taken off.



4.6.3. CALLING ON SIGNAL OPERATION:

Calling-on signal route set operation is similar to the same procedure as mentioned for the main signal. For calling-on Signal, route is set after a train occupies the approach track circuit in immediate rear of the stop signal. The calling on Signal is cleared after a lapse of 60 Seconds 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 as the case may be) in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be set by tracking the pointer in VDU on to the signal below which the calling on signal is provided. Left click on the calling-on Signal which will appear a pop-up menu as follows.

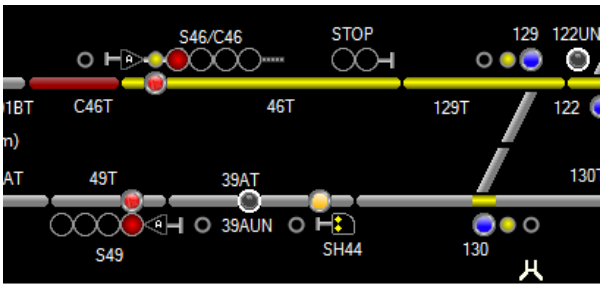


Then the SM must drag the pointer and click over the required route as a result of which the calling-on signal will blink for 60 seconds. For all home signals the time delay is 60 seconds, the Calling-on signal clears i.e. a yellow light glows at the concerned calling-on signal on the VDU.

The Calling on signal cannot be taken off when both the track circuits after Home signal are showing occupation.

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 ie., 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. SIDING CONTROL OPERATION:

Please refer para No.19.1 appendix 'B' in this SWR.

4.8.1 LEVEL CROSSING GATE OPERATION:

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



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

4.9. 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:

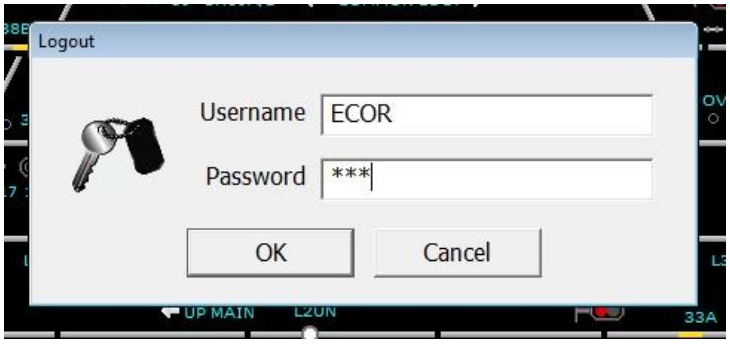
When the point zone track circuits failed without any point lock condition through respective signal route(s), a point can be operated by the Emergency Point operation.

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

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



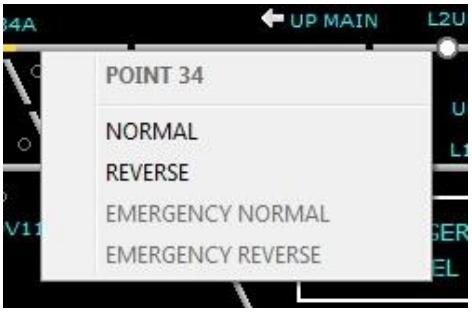
Click on the KEY IN in the menu appeared and shall provide User name and password for the same as follows.



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

5.2.1. <u>EMERGENCY NORMAL OPERATION</u>:

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. <u>EMERGENCY REVERSE OPERATION:</u>

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 KMSD.

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. <u>EMERGENCY CRANK HANDLE RELEASE OPERATION:</u>

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.

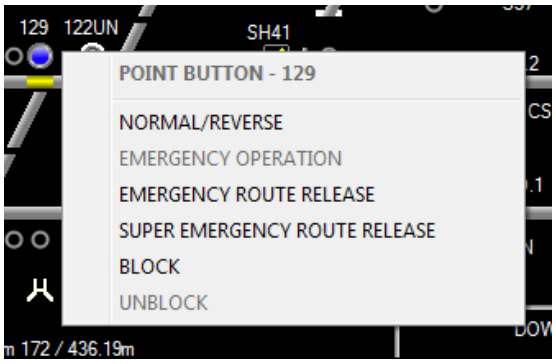
5.3.1 EMERGENCY CRANK HANDLE OPERATION DURING FAILURE OF BOTH THE VDUs (ACTIVE AND STAND BY)

When both the VDUs (Active & Stand by) provided for operation of signals & points in EI station cease to work at the same time due to power failure or what so ever the reason, the SM on duty shall put the VDU key to middle position and turn the key (ECH) to right provided in the key box fixed on the SM table. By resorting to this, timer is initiated and all the crank handles are released at a time after 120 seconds. The SM on duty can set the required point/points through crank handles manually by extracting the key/keys from EKTs provided in the location boxes. In case complete EI System fails there is a provision that keys from all crank handle locations can be extracted for crank handling & setting of points for train operations.

CRANK HANDLE CONTROLS FOR EMERGENCY OPERATION OF POINTS			
S No	CRANK HANDLE	CONTROL POINTS	PROVIDED IN
1.	CH1	52 A/B, 54 A/B,	DN CH LOC-1, KDLR End
2.	CH2	51 A/B, 55 A/B	UP CH LOC-1 TIG End
3.	CH3	57 A/B, 60 A/B	UP CH LOC-3 & DN CH LOC-2 TIG End & KDLR End.
4.	CH4	56 A/B, 59A/B, 66	DN CH LOC-4, UP CH LOC-2 KDLR END & TIG End.
5.	CH5	53A/B, 58 A/B.	UP CH LOC-3, DN CH LOC-3 TIG END & KDLR End.,
6.	CH6	64	DN CH LOC-2, KDLR End
7.	CH7	68 A/B	DN CH LOC-SDG KDLR End
8.	CH8	62 A/B	DN CH LOC-2, KDLR End

5.4. BLOCK AND UNBLOCK OPERATION:

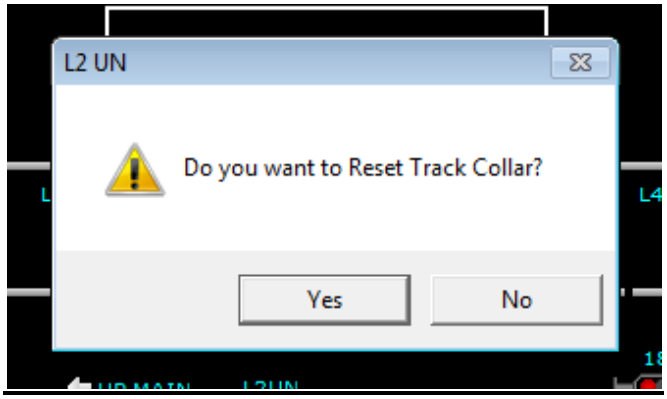
Block option is used to block Route icon. Block Operation prohibits the setting of routes, releasing the route by the user. A typical Block & Unblock menu is shown below.



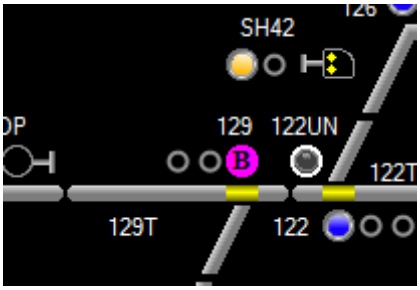
5.4.1. BLOCK OPERATION:

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

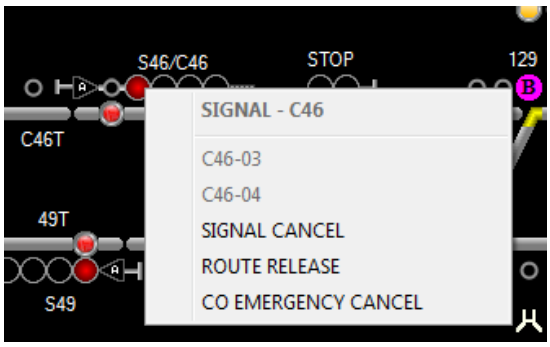
Select the "BLOCK" menu item from the list and press left mouse button or Enter key in the keyboard. A confirmation box appears as shown in below.



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

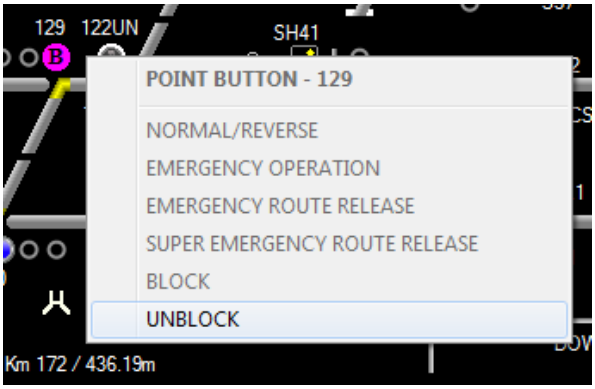


Once Block command is applied, all routes across the track in both directions are prohibited by disabling menu items of the respective signals as shown in below.

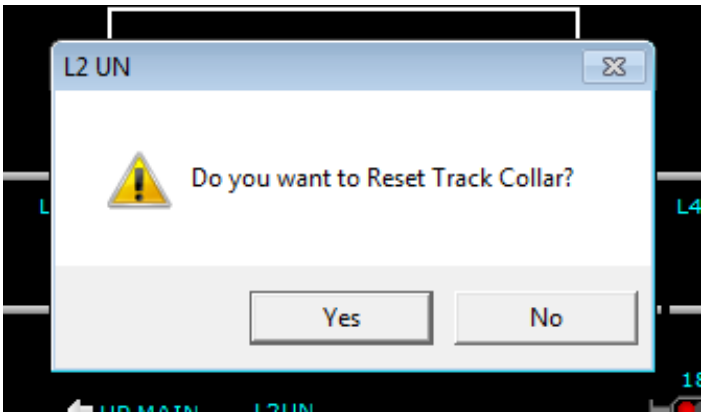


5.4.2. UNBLOCK OPERATION:

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



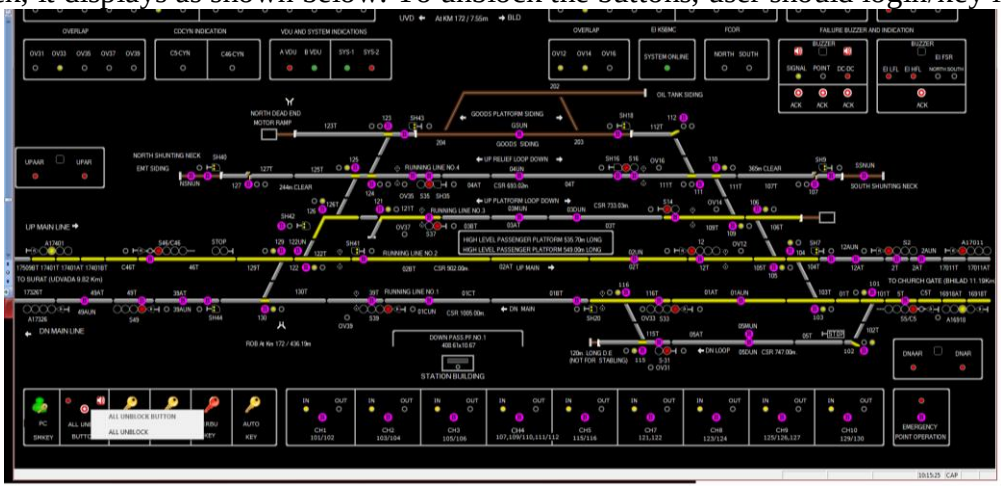
A confirmation message box as shown in below will be displayed to get the confirmation from the user. UNBLOCK command will be sent to EI system to unblock the button, when “Yes” buttons is clicked.



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

5.4.3. All UNBLOCK OPERATION:

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



6. DIGITAL AXLE COUNTER:

High Availability Digital Axle Counters are provided as a Last Vehicle Checking Device (LVCD) for Both UP and DN block sections between KSNG-KDLR, KSNG-TIG and in single line block section between KSNG-KDLR and KSNG-TIG sections.
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 IB 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 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):**

Digital Axle Counters are provided on both DN & UP lines of KSNG-TIG, KSNG-KDLR section and KSNG-TIG and KSNG-KDLR ON 3rd LINE Block sections.. The occupation and clearance of the axle counter section are indicated on VDU by RED & GREEN light respectively**.** When after arrival of a train the LVCD Axle counter does not show clear indication and the 'Section Occupied' indication continues to glow SM on duty shall initiate resetting procedure for the LVCD Axle Counter monitoring the Block section. Before initiating Resetting procedure SM on duty shall ensure that the train which has left arrived completely at receiving station and block section is clear [free] of trains. If the track indication of that particular block section is showing 'Red" then the following actions are to be performed by the SM on duty.

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

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

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

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

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

The SM shall record in his Train Register the resetting operation giving details of train number, time, Private Number exchanged with SM in rear, giving reasons for the resetting operation.

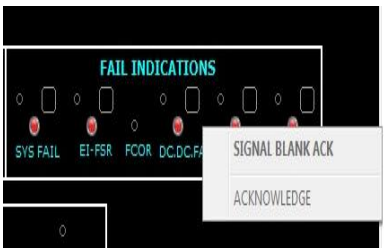
If the axle counters functioning properly now, then Block Section cleared indication 'GREEN' will appear on the panel and the concerned Block working will be normalized.

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

6.2. Resetting operation of IB axle counter:- Mention in appendix- F of this SWR.

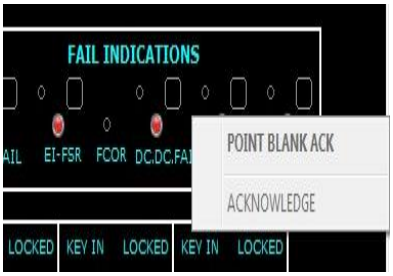
7. **SIGNAL LAMP FAILURE INDICATION AND BUZZER ACKNOWLEDGMENT:**

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



8. <u>POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND POINT FAILURE ACKNOWLEDGEMENT:</u>

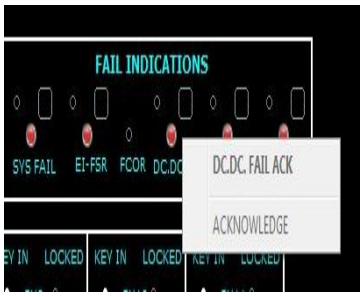
Whenever there is a failure of point due to non-setting, point failure indication flashing light appears near the point button icon along with point failure Buzzer. The buzzer stops when the point failure acknowledgement button icon is pressed, but the flashing light above the ACK button shall continue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



9. <u>POWER FAILURE INDICATION AND BUZZER ACKNOWLEDGEMENT:</u>

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

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

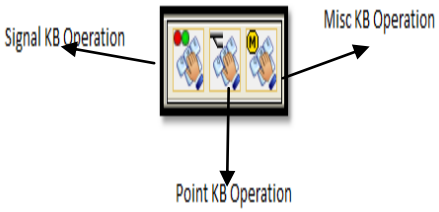


10. <u>KEY BOARD OPERATIONS:</u>

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

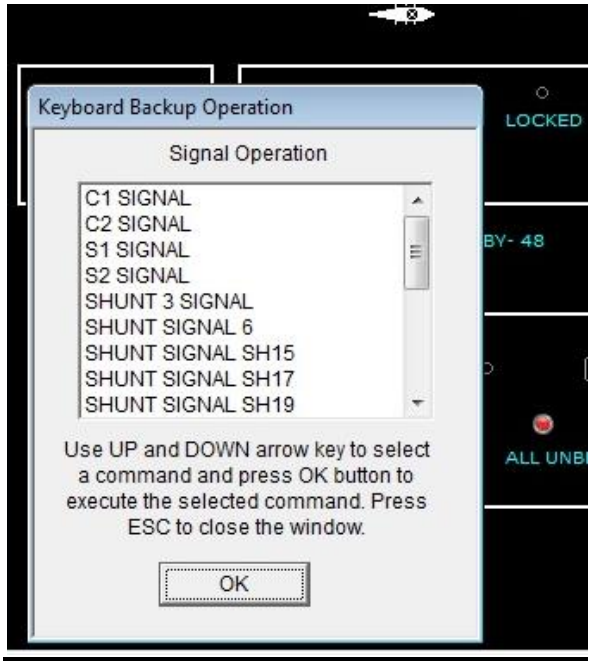
The "Keyboard backup" group has three buttons on the toolbar:-

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



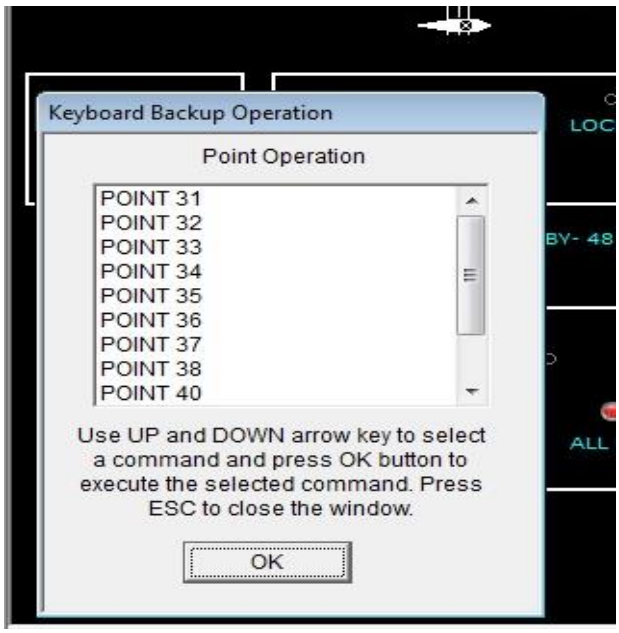
10.1. SIGNAL KEY BOARD OPERATION:

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



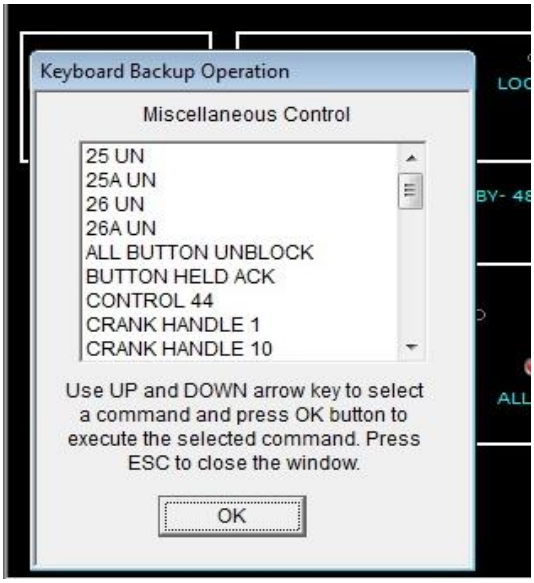
10.2. POINT KEY BOARD OPERATION:

Alternatively, the point commands can be accessed using the shortcut "Ctrl+P". When the shortcut is pressed in the keyboard, a dialog box with a list of point commands will appear at the bottom left corner of the window as shown in below. Using Up (↑) and Down(↓) arrow keys of the keyboard, select the desired point command and press "Enter" key on the keyboard. A popup window with all possible menu items will appear near to the control and the dialog box will be disappeared. User by using "Up" and "Down" arrow keys select the desired command and press "Enter" key on the keyboard. After the command is selected, it will be sent to EI system and the popup menu will be disappeared.



10.3. <u>MISCLLENEOUS KEY BOARD OPERATION:</u>

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



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

11. <u>COUNTERS:</u>

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

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

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

12. TRACK CIRCUITS:

Both UP & DN main lines, 3rd main line, and Common loop lines and all the point zones are track circuited as L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L3T1, L3T2, L3T3, L4T1, L4T2, L4T3, L5T1, L5T2, L5T3 ,52AT, 52BT, 53AT, 53BT, 54AT, 54BT,55AT, 55BT, 56AT, 56BT, 57AT, 57BT, 58AT, 58BT.59AT, 59BT, 60AT, 60 BT 62AT, 62BT,

Approach track circuits 1AT, 2AT, 3AT, and 4AT of 5 Rail length for Calling on Signal are provided in rear of the UP, DN and 3rd line Home signals respectively. In addition there are short length track circuits 2T in advance of DN Home Signal, 1T1 & 1T2 in advance of UP Home Signal and 3T & 4T in advance of 3rd line Home signal are also provided. Similarly there are 5 Rail length track circuits 26T beyond DN Advanced Starter Signal and 27T beyond UP Advanced starter signals respectively for replacement of Last Stop Signal. From the last trailing point/fouling mark in either side of yard to Advanced Starter Signals are also track Circuited i.e 26AT, 27AT,29AT and 30AT in DN and UP directions.

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 cross over by positively checking the entrance and exit track circuits are showing occupancy and clearance in accordance with the train movement.

12.1 TAKING OFF CALLING-ON SIGNAL:

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

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

at the concerned Calling-on signal on the VDU. When both the track circuits beyond Home signal/starter signal shows occupation calling on signal can not be taken 'off'.

NOTE:

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

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

13. RELEASE/CANCELLATION OF ROUTE:

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

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

14. **REPLACEMENT OF SIGNALS TO 'ON':**

Signals are replaced to 'ON' automatically by the passage of a train beyond the signal. It will not be possible to re-clear the signal again unless the due process for clearing the signal is repeated again. For replacement of any signal to 'ON' position manually, the SM on duty shall follow the Para No.5.1 of Appendix-B.

15. **PILOTING OF TRAINS IN TO STATION YARD:**

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

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. If home signal route is available ,then the concerned points not be clamped and padlocked.

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:

a) 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)].

b) The keys of padlock of the clamps put ON to 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.

16. PILOTING OF TRAINS - OUT OF STATION YARD:(3.70.03)

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 3.70.01]. If route indication of a concerned starter is available points need not be clamped and padlocked.

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

17. SHUNTING:

Shunt back signals SH-5(A/B/C/D) and SH 7(A/B) towards TIG end of the yard, SH-6(A/B/C/D) and SH-8A/B are provided towards KDLR end of the yard. SH-11, SH 12, SH 13, SH-14, SH-15 SH 16, SH-17,SH 18, SH19 and SH 20 are provided for Yard shunting. Shunt Signal SH-22 is provided on shunting neck towards KDLR end.SH-24 & SH-26 are provided towards KDLR end of the yard for shunting on sick siding and Goods siding respectively. For taking OFF Shunt signals please refer Para No. 4.6.2 of APPENDIX-B.

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

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

19. GOODS SIDING:

19.1. WORKING OF GOODS SIDING POINT NO.68A/B:

Electrical operation of siding control point No.68 is carried out at site from the goods siding location. In goods siding location there are two EKT's namely EKT-1 & EKT-2, three buttons for normal and reverse operation along with common button. Point indications for normal & reverse and point free indications are provided. There is one more RKT is provided for crank handle purpose when electrical operation of points is not possible. Working of Electrical operation of Siding Points is as follows:

1. To operate Siding point Key 'P' is required to be inserted in EKT-2.
2. Key 'P' can be extracted from EKT-1 only when SM extends control from VDU. Extraction of Key 'P' from the EKT-1 will block all signaled movement on Line No.1.
3. Key 'P' when inserted in EKT-2, point free indication appears on the board. Point button and normal or reverse buttons are simultaneously pressed to set the point to normal or reverse as the case may be.
4. After setting of point to reverse key 'P' should be extracted from EKT-2 and kept in the custody of the shunting porter. Removal of key will lock the point. However points are to be clamped and padlocked in view of Non signaled movement as per G&SR.

5. After completion of the movement key 'P' is to be inserted in EKT-2 & siding point 68A/B is to be operated to normal. After ensuring both end of 68A/B in normal setting, Key 'P' is extracted from EKT-2 & inserted in EKT-1 to enable SM to release the control 68. Key 'P' in EKT-1 resume signaling movement over 68A/B in normal position.
6. Crank handle control CH-7 is to be taken out for crank handling the point 68A/B in case of failure of electrical operation.
7. To extract the crank handle CH-7 from RKT SM on duty should extend the control no 68 same as for electrical operation of siding point.

20. <u>OBSERVATION OF TRACK CIRCUIT AFTER STABLING OF TRAINS ON RUNNING LINES</u>:

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

21. <u>MAINTENANCE OF S & T INSTALLATION AND ADHERENCE TO MAINTENANCE SCHEDULES</u>:

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.

22. <u>RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:</u>

After receipt of the failure information, the sectional Maintainer shall attend to the failure after giving a 'Disconnection Memo'. After rectification of the fault, the Sectional Maintainer shall give 'Reconnection Memo' detailing the rectification. Thereafter the Station Master on duty shall personally check this defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective apparatus in terms of SR.3.68.04 (d) and RB letter No. 2021/SIG/21/safety performance, dtd:10.06.2023 & amendment issued vide letter No: 2023/TT-IV/9/2, dtd:16.06.2023.

23. <u>PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:</u>

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.

24. <u>EMERGENCIES:</u>

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.

25. <u>PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL OR POINTS AND USE OF CRANK HANDLE:</u>

1. Whenever a Signal or a Point becomes defective any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at the Station.

2. In case of failure of Signal or a Point and in case the Point cannot be operated from the VDU, the Crank Handle which is interlocked with the system has to be extracted and the following procedure has to be observed.

3. One common emergency Crank Handle key is provided for certain group of Motor operated Points. This is mechanically riveted to the Key of RKT. This Key along with Crank Handle can be released from the RKT by pressing the RKT Push Button provided near the RKT. In case of failure of Point Motor the SM on duty will take out the Crank Handle, set the Point manually by inserting Crank Handle in the Motor.

4. When the Crank Handle key is removed from RKT for operation of the defective Motor Operated Points, the responsibility for its safe custody rests with the ASM/SM on duty till it is replaced back in RKT.

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

6. Whenever a Crank Handle key is required to be used by a Signal Official for maintenance/attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the Crank Handle register, the Station Master on duty will obtain acknowledgement of the Signal Official in the Crank Handle Register and then handover to him the Crank Handle key for the Points concerned. All the Points will be treated as defective till the Crank Handle key is returned back to Station Master on duty.

7. Before parting with the Crank Handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.

8. The Crank Handle Register is to be maintained in the following pro-forma by the Station Master on duty wherein the particulars of usage of the Crank Handle must be recorded:

a. Date:
b. Point Number which failed or required to be tested:
c. Time failure:
d. Disconnection memo number received from S&T Staff:
e. Signature of SM/Signal Official to whom the Emergency Crank Handle is handed over:
f. Time Emergency Crank Handle is sent out:
g. Individual Point numbers, and Line number nominated for admission of dispatch for which Points are set, Clamped and Padlocked:
h. Train number to be admitted or dispatched:
i. Signature of the Station Master on duty to ensure correct setting, Clamping and Padlocking of the Points:
j. Date and Time fault rectified.
k. Time of Emergency Crank Handle received back by SM on duty:
l Signature and Designation of the Signal Official who rectified the fault:

26. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

26.1. INTERLCOKING WITH HOME SIGNALS:

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

26.2. INTERLCOKING WITH ADVANCED STARTER SIGNALS:

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

The DN IB Home signal No.32 is interlocked with DLBI of section KSNG-TIG so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in' LINE CLEAR' position. The DN Advanced starter signal No. 28 is controlled by the IB Axle counter section 28AXT.Unless 28 AXT is clear the Advanced starter signal No 28 can not be taken OFF.

The UP Advanced starter signal No 29 on 3rd line between KSNG-KDLR is inter locked with the UFSBI Block Panel. Unless the Block Panel is in Line clear position the UP Advanced starter signal can not be taken OFF.

The DN Advanced starter signal No 30 on 3rd line between KSNG-TIG is inter locked with the UFSBI Block Panel. Unless the Block Panel is in Line clear position the DM Advanced starter signal can not be taken OFF.

26.3. SUSPENSION OF LAST STOP SIGNALS:

When the Double line block instrument for section KSNG-KDLR is suspended with its handle in any position for whatever reason the concerned Last Stop Signals controlled by the DLBI must be treated as suspended and trains shall be Piloted Out. When the Double line block instrument for section KSNG-TIG is suspended with its handle in any position for

whatever reason the concerned Last Stop Signals and IB Stop signals controlled by the DLBI must be treated as suspended and whole section KSNG-TIG shall be treated as one block section and trains shall be Piloted Out.

When the UFSBI Block panel for section KSNG-KDLR or KSNG-TIG of 3rd line is suspended with its handle in any position for whatever reason the concerned Last Stop Signals controlled by the UFSBI Block Panel must be treated as suspended and trains shall be Piloted Out on PLCT.

27. <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 double line Block Sections between KSNG-TIG, KSNG-KDLR and on 3rd line between KSNG-KDLR and KSNG-TIG sections.

2. The occupation and clearance of the axle counter section are indicated on the VDU by 'RED' and 'GREEN' light.

3. If any Block proving Axle Counter [LVCD] section fails, the Last Stop Signal at the rear station cannot be taken 'OFF' and Block instrument at Advance Station cannot be turned to 'Line Closed' position after arrival of a train and in such case, resetting of last Vehicle Checking Device is to be resorted to in either Section.

4. No train shall be allowed on signal to leave a station in any particular direction unless Block Section clear indication is available for the relevant Axle Counter section portion and Last Stop Signal is taken OFF. [Refer Para No: 6.1 of appendix 'B' for procedure of resetting of LVCD Axle counter].

28.0 **TELECOMMUNICATIONS:**

i) Telephone attached with DLBI of KSNG-TIG & KSNG-KDLR Block Sections for Double line and Block telephone attached with Block Panel for section KSNG-KDLR and KSNG-TIG 3rd line.
ii) Station to Station fixed telephone (Hot line) is provided
iii) Station is provided with Auto telephone connected with Railway Exchange.
iv) BSNL telephone is provided.
v) The station is connected to Balangir-Singapura Road 'B'cabin control circuit by a
vi) control telephone.
vii) Traction Power Control telephone is provided.
viii) Telephone communication is provided between station SSP and SP
ix) Station to station 25 Watt VHF communication is provided.
x) Telephone is provided between Station and both end crank handle locations.
xi) Telephone is provided between Station and DN IBS post at KM 208.600.
xii) Telephone is provided between Station and L.C.Gates No. RV-172 at KM 215/7-9 (UP) 215/8-10(DN) 215/8A-10A(3rd line), RV-168 at KM 209/17- 19(UP) 209/18-20(DN) 209/18A-20A(3rd line), RV-169 at KM 210/29-31(UP) 210/30-32(DN) 210/30A-32A(3rd line), RV-171 at KM 212/11-13(UP) 212/12-14(DN) 212/12A-14A (3rd line) and RV-175 at KM 218/15-17(UP) 218/16-18(DN)(RV-175) 218/16A-18A (3rd line).

NOTE:

(i) For obtaining line clear, VHF should be used as a last alternative and not as a sole means of communication.
(ii) VHF and Walkie Talkie sets should not be used for unnecessary discussions with Loco Pilots, Guards or any other staff.

S. SAINI
DSTE(SIG)/SBP

LINGARAJ GARTIA
DOM(G)/SBP

(iii)The on duty SM shall use the above electrical communication instruments stated in Para-24.0 from item No. (i) to (vi) strictly in order of preference for obtaining/granting line clear vide SR 14.01.01. In case of failure of any of the above means of communication the SM on duty shall work vide SR 6.02.06

29.0 [A] POWER SUPPLY ARRANGEMENTS FOR THE SIGNALLING INSTALLATION

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

i) Normally supply from AT connected to OHE Traction distribution [230 V 50 Hz].
ii) Stand by supply from Odisha State Electricity Board (OSEB) [Single phase 230V-50Hz].
iii) Normal power supply [Single phase 230V-50Hz] to the Signaling & Interlocking installation at the station is drawn from the traction power sources. Whenever traction power supply fails SS/SM on duty shall operate the rotary change over switch provided in the CLS power panel at SM's office connecting the power supply from the healthy sources to the installation.
The SS/SM on duty however maintains the record of AT power supply/ local supply and he must promptly report the failure of AT supply immediately through the section controller and to the concerned Electrical Staff and S&T maintenance staff.

a) A change over switch is provided in the SM's office with the three power supplies viz UP AT, DN AT supply and local power supply for changing the switch to the required supply position. The availability of the supply is indicated by luminous indicator above the circuit breaker for each supply.
b) Normally the switch will be kept towards auto position. Whenever the power block is to be given on the line, on duty SS/SM must ascertain the power is available on the local supply and other AT and change over the switch to desired position.
c) In case of failure of AT supply without any power block, on duty SS/SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is UP and when tripped, it goes DN). In case of failure of AT supply without any power block, the local supplies shall be utilized by operating the changeover switch if required.
d) If the circuit breaker is tripping, even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEEE/GEN and CTFO/PSI/ TRD/GEN for prompt rectification.
e) Whenever there is failure of AT supply, the on duty SS/SM shall take prompt action to inform to all concerned for the rectification. The on duty SS/SM himself, during his daily checks, shall test the availability of AT power supply and make entry in station dairy duly initiating action for rectification of failure, if any.

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

Power supply to the signaling installation is fed through IPS installed in the S&T power supply room. The IPS is normally fed through UP AT/DN AT traction power selected by SS/SM. On duty. Standby power supply is through OSEB local supply. One changeover switch is provided in the SM's room for selection of output of either traction power supply or local power supply. The available traction/local supply is fed to the IPS through auto- change over switch provided in IPS.

The IPS system is connected with Battery as a back-up power source for safe working during transition of power and in case when there is no 230V AC supply available due to any reason.

In the event of the failure of all the sources of 230V 50Hz AC supply, the signalling system shall be fed by power generated by back-up battery bank connected to IPS for a approx. time of

06 to 08 hours. The health of battery bank is monitored through one IPS monitoring panel provided in the SM's room which shall be display the voltage 110V DC [Battery Bank provided as back-up source of power supply]. Depending upon the health of the Battery Bank and the system, the following indication/alarm will appear on the IPS monitoring Panel, their implications and action to be taken by SS/SM on duty is tabulated below.

Sl. No.	Instruction	Health of Battery Bank/ Equipment.	Visual Indication	Audio Indication	Action to be taken by SS/SM on duty
A	-	50%DOD (105.9v)	Red	Alarm	Alarm shall be acknowledged by SS/SM on duty
B	-	60% DOD (105.1v)	Red	Alarm	-do-
C	System Shut down	70% DOD (104.3v)	Red	Alarm	Feed to signals gets cut off however all DC-DC converters continue to work. Audio alarm will continue till power supply is restored.
D	Call S&T Staff	Equipment fault	Red	Alarm	If any of the modules of IPS fails this alarm will appear on the SM's panel. Alarm shall be acknowledged by on duty for audio cut-off.

On duty SS/SM in each shift shall check and record the readings, indications, etc in the station dairy duly initiating rectification of failures of IPS system, if any.

In the event of failure of IPS monitoring SM console due to any reason and when both traction power and local power failed the SS/SM on duty shall inform concerned Electrical staff immediately. In case 'Call S&T staff ' or 'System shut down' indication appear on the IPS monitoring panel of IPS and/or mal-functioning of the IPS monitoring panel SS/SM on duty shall inform the same to concerned S&T staff immediately.

NOTE: In case of failure of all AC supply sources IPS Battery Bank can provide power supply approx. up to 06 to 08 hours before system shut down indication of IPS.

30.0 WORKING OF AUTOMATIC FIRE DETECTION AND ALARM SYSTEM:

a) In case of any alarm in any particular area due to fire or dust-Zone number on the LCD display can be seen, note down the zone No. displayed in control panel.
b) The moment the smoke detector detects any smoke particles, the RED LED will blink along with the alarm.
c) Once you find the zone number rush to that particular area where the detector gives alarm.
d) Once you reach the area where the detector is giving the alarm, check whether the alarm is due to the fire or for any other reason.
e) Then call immediately to the staff of concerned department.
f) Call the fire station if required.
g) Take action to extinguish the fire by the fire extinguishers available in the station.
h) To reset the panel follow the instructions provided by S&T official in station master's room near the fire alarm panel.
i) The control panel will get reset and siren muted.
j) If the power fails on this will enable us to see the red indicator on the panel.
k) In case of failure in power and if the battery is fully charged, the panel can function effectively as long as the charge in the battery is present.

APPENDIX 'C'

ANTI COLLISION DEVICE [RAKSHA KAVACH]:

-NIL-

APPENDIX 'D'

DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT

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

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

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

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

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

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

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

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

He is responsible for booking all staffs working under him for PME and Refresher Course / Safety camp in their due time. His Special attention is drawn out to chapter II of General and Subsidiary Rules and GR 5.01 to 5.08 with relevant Subsidiary Rules, Chapter – 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 1976 (Revised-2012) and GR 5.01 to 5.08 with relevant SRs. He shall follow the instruction laid down in SR 3.68.01© & (d) and SR 14.07.01 and BWM 2.09 (e). He shall conduct surprise night inspection, safety meetings and fire drills. He shall maintain good public relation as well as look after passenger's amenities and be helpful to travelling public.

1.1 **ASSURANCE REGISTER:**

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

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

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

The declaration shall be renewed in the following cases: -

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

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

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

3.0 **ACCIDENTS**:

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

4.0 **TESTING OF POINTS AND SIGNALS**:

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

5.0 **SS/STATION MASTER**

He shall work in 8 hrs. shift for train passing and booking of traffic, coaching returns and other statements shall be prepared and submitted by him in time under the direction of the Station Superintendent in charge. He shall assist the Station Superintendent in charge for the up keep of the station in all aspects.

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

He is responsible for working beyond this period when called upon to do so in the exigencies of services. He will follow SR 3.68.01(c) & (d), SR 14.07.01. Their special attention is drawn to Chapter II of G & SR 1976 (Revised-2012) and GR 5.01 to 5.08 with relevant SRs. As an Assistant to the SS, he shall follow the instructions given to him by the Station Superintendent.

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

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

7.0 **TRAFFIC POINTSMAN:**

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

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

GENERAL

i. All staff should be in uniform while on duty and follow the rosters issued by DPO/SBP from time to time.

ii. A set of Red and Green flags and Tricolor hand signal lamps will be part of the essential equipments of staff while on duty. They shall not leave the station except when required by the SM on duty or with his permission. They shall comply with SR 4.42.02 (b) & (c).

S. SAINI
DSTE(SIG)/SBP

LINGARAJ GARTIA
DOM(G)/SBP

APPENDIX 'E'

LIST OF ESSENTIAL EQUIPMENT PROVIDED AT THE STATION:

A list of essential equipment's is given below which shall be maintained in good Working order.

Sl. No	Description	Quantity
(i)	Detonators	10 in tin case
(ii)	LED based Tri Colour flashing torch.	04 Nos.
(iii)	Hand signal flags	04 sets.
(iv)	Safety chains with pad locks	10 Nos.
(v)	Wooden Wedges	12 Nos.
(vi)	Skid	06 Nos.
(vii)	Fire buckets (with sand and water)	06 Nos.
(viii)	Clamps with padlocks	12 Nos.
(ix)	"Block suspension" Boards	04 Nos.
(x)	"Motor Trolley on Line" Boards	04 Nos.
(xi)	First aid Box	01 No.
(xii)	Stretcher	01No.
(xiii)	Fire extinguisher	02 Nos.
(xiv)	Blanket	01 No.

APPENDIX 'F'

1. **IBS:RULES FOR WORKING INTERMEDIATE BLOCK SIGNALLING BETWEEN KSNG-TIG**

The block section between KSNG-TIG has been split into two block sections by providing Intermediate Block Stop signals at KM 208.600. F/HWH [controlled by KSNG station] for DN line and, at KM 208.900 F/HWH [controlled by TIG station] for UP line. Intermediate Block stop signals are controlled through double line lock and block instruments at the respective receiving ends.

A] The Block working for section between TIG-KSNG on UP & DN lines are controlled by the provision of Double line Lock and Block Instruments (SGE type) and are provided at TIG and KSNG stations. The UP Advanced starter signal no. 59 of TIG and DN Advanced Starter signal no. 32 of KSNG are controlled by the clearance of IB section through respective IB section monitoring axle counters and the IB Home signals are controlled in turn through the line clear position of respective Double line lock and block instruments and LV section monitoring axle counters of receiving stations.

B] Trains between intermediate block signal to respective Home signal of station in advance are worked by means of SGE type lock & block instrument vide GR 3.75, 4.09, 5.07, 14.01 to 14.14 of the G & SR and chapter VI of BWM.

C] Last stop signal to the intermediate block stop signal is controlled by Digital Axle counter and are worked under absolute block system in terms of G & SR 14.01, 14.13.

D] **INDICATIONS PROVIDED FOR I.B. SECTION.**
The indications of signals of IB in both DN and UP directions are provided at KSNG Station and TIG Station.

SECTION KSNG-TIG:

SN	Signal Aspect [S-28] (KSNG)	IB Section Indication [28 AXT]	DN IB Home Aspect	Block Section Indication	Remarks.
1	Green	Green Illuminated when section is clear. When train enters the section RED illuminated	-	-	Advanced starter no. 28 is taken off to dispatch a train up to DN IB Home sig No.32.
2	Red	Red Illuminated	-	-	IB Section is occupied.
3	-	-	Green	Green illuminated when LVV section is clear. When train enters the section RED illuminated	IB Home taken off for train up to DN Home signal of KSNG.
4	-	-	Red	Red Illuminated	LVV section is occupied or IB Home passed at danger.

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SECTION TIG-KSNG

SN	Signal Aspect [S-51] (TIG)	IB Section Indication [51 AXT]	UP IB Home Aspect	Block Section Indication	Remarks.
1	Green.	Green illuminated when section is clear. When train enters the section RED illuminated	-	-	Advanced starter no. 51 of TIG is taken off to dispatch a train up to UP IB Home sig No.59.
2	Red.	RED Illuminated	-	-	IB section occupied.
3	-	-	Green	Green illuminated when LVV section is clear. When train enters the section RED illuminated	UP IB Home signal is taken off for train up to UP home signal of KSNG.
4	-	-	Red	Red Illuminated	LVV section is occupied or IB Home passed at danger.

E] **Buzzer/Bell**

One audio buzzer has been provided in the SM room at both KSNG and TIG to detect Train Entering section for outgoing trains. After train passes the intermediate block stop signal, the buzzer/bell will start ringing. On hearing the buzzer/bell the SS/SM of sending station must acknowledge the same by clicking on IB train entering section [TES] muting icon to stop the buzzer/bell and then send train entering section report to the receiving station who shall turn the commutator of the Double Line Lock and Block Instrument from the 'Line Clear' position to 'Train On Line' position and acknowledge train entering section following the procedures laid down vide Block Working Manual.

F] In the event of failure of I.B. track circuit [i.e. track clear indication not available] which shall not permit taking 'OFF' last stop signal, it should be ensured by SS/SM on duty at the dispatching station through exchange of private number with the SS/SM of the receiving station that the last train that has passed the last stop signal of his station has fully arrived at receiving station, before allowing the next train to enter in to the section, such permission to the next train shall be granted and the section TIG-KSNG as the case may be shall be treated as single section by issuing the pilot memo when normalization of the system is not possible. Trains are to be dispatched from the station only after obtaining line clear till such time track circuit or last stop signal is restored to normal.

G] **NORMALIZATION OF IB AXLE COUNTER AND RESTORATION OF BLOCK WORKING BY RESETTING FEATURE:**

i] No train should be allowed to leave station in any particular direction unless IB track clear indication is available for the relevant track circuited portion of IB section and last stop signal cannot be taken off also.

ii] A Resetting arrangement for the resumption of IB Axle counter, under failure condition through co-operative feature of both the SM on duty at either end station of the Block section is provided, which should only be resorted to after the train that was sentlast has arrived fully at the receiving station and is certified in this respect by the SM at the receiving station through exchange of private number.

iii] For monitoring of IB section working & re-setting of IB Axle counters, Track Indications and Resetting arrangements are provided on the VDUs of KSNG and Operating cum indication panel at TIG stations. Counters are also provided for the purpose of recording of each act of re-setting for the IB Axle Counters in case of failures in IB section.

iv] The SM on duty at KSNG station shall maintain a separate register for use for resetting of IB Axle Counters wherein every operation of the resetting shall be recorded giving details of date of use, train number, time, and number registered in the counter on Veeder Counter and reasons for resetting and initial for each such entry.

v] The procedure for resetting of the IB Axle counters in terms of clause G(ii) above shall be as follows:

SECTION KSNG-TIG:

	DESPATCHING STATION [KSNG]		**RECEIVING STATION[TIG]**
1	In case of failure of axle counter between sending station and IB signal then SM on duty of sending station shall call the attention of SM of receiving station through Telephone for granting Permission to re-set IB Axle counter as well as Train Passed signal with Danger [train run away condition] giving details of last train left the station into the section.	1	SM on duty at receiving station shall after verifying that the said dispatched train arrived fully and exchange private number with SM on duty of sending station and gives permission to re-set by clicking on the 'Reset Permission Button Icon' provided on the VDU. Then a flashing yellow indication will appear near the button icon. For each such operation the permission granting counter shall increase by one digit. SM on duty shall make an entry of changed permission granting counter number in counter register
2	On getting permission to reset from receiving station, a flashing yellow indication will appear on Permission Received icon which shall be acknowledged by SM on duty by acknowledging 'Permission Ack icon and then flashing indication will become steady. On duty SM at sending station shall then make IB Reset 'key IN' on the VDU and then click 'PRESS' on the 'Reset Button icon'. Approximately after 5 seconds click the 'RELEASE' on the reset button icon and then make the reset 'key OUT'. On doing the above process for resetting preparatory reset indication will appear on VDU. First train has to be piloted out. On passing of the first train IB Axle counter will get reset. After this preparatory reset and	2	After completion of reset procedure Permission granting indication will go blank at the receiving station.

	Permission Received indication will go blank. For each such operation, the IB. reset counter provided shall increase by one count. SM on duty shall make an entry of changed Reset counter number in re-setting register.		
3.	In case of train passed IB signal at danger, train run away indication will appear on the VDU along with buzzer. SM on duty shall then acknowledge the same. He shall call the attention of SM of receiving station through telephone for granting Permission to reset the runaway indication giving details of last train left the station into the section.	3.	SM on duty of receiving station, after verifying the complete arrival of last train shall give a private number to the sending station that the section is clear. He shall then grant permission to reset the train run away indication.
4.	SM of the sending station shall acknowledge the permission granted and shall then follow the resetting procedure detailed above. The trains run way indication will go blank and the system is normalized. In such case there is no need of piloting out of the first train.		

H] **NORMALIZATION OF LVV AXLE COUNTER AND RESTORATION OF BLOCK WORKING BY RESETTING FEATURE:**

	RECEIVING STATION[TIG]		**DESPATCHING STATION [KSNG]**
1	In case of failure of axle counter between UP IBS and receiving station, then SM on duty of receiving station shall call the attention of SM of despatching station through Telephone for granting Permission to re-set UP LV section Axle counter giving details of last train arrived the station.	1	SM on duty at despatching station shall verifying the said dispatched train has arrived completely to the receiving station with the exchange private number with SM on duty of receiving station and gives permission to UP LV section re-set by pressing on the 'Reset Permission Button' provided on the Panel. Then a flashing yellow indication will appear on the panel. For each such operation the permission granting counter shall increase by one digit. SM on duty shall make an entry of changed permission granting counter number in counter register.
2	On getting permission to reset, from sending station, receiving station shall be acknowledged by acknowledging 'Permission Ack. Button'. and Now SM on duty has to manually reset the axle counter. He shall insert the reset key, turn right and press on the panel simultaneously with reset button for about 5 seconds. On doing the above process for resetting preparatory reset indication will appear on	2	Flashing indication will become steady. After completion of reset procedure Permission granting indication will go blank at the receiving station.

	both Panel and reset box. T/369(3b) shall be issued to loco pilot of the first train to pass IBS at ON. On passing of the first train completely to UP LV section, LVV Axle counter will get reset. For each such operation, the LVV reset counter provided shall increase by one count. SM on duty shall make an entry of changed Reset counter number in re-setting register.		

I] **DESPATCH OF TRAINS:**

Dispatch of trains is governed by the provision of GR 3.42, 3.70 & SR there to and Block working manual rules. For dispatching trains with last vehicles/trains without guard/banking engine in rear, JPO and safety circulars issued along with relevant GR & SRs to be followed.

From KSNG towards TIG.

Train will be dispatched in accordance with the General Rules 3.42, 3.70., 3.75, 4.35 and 8.01 and subsidiary Rules thereto.

KSNG TO IBS ON DN LINE:

The SM on duty shall ensure that the portion of line between Advanced Starter and 400 Mtrs beyond IBS at their respective ends is clear of obstruction and indication to this effect is available and shall also ensure any non-isolated shunting at their respective ends suspended and shunting authority issued if any is withdrawn and kept in his custody.

IBS SIGNAL TO TIG:

The SM on duty KSNG shall obtain line clear through lock & Block instrument from station in advance to despatch a train in to section and pass the IBS signal through by taking off the IBS signal no. 32 of KSNG for DN line.

After the train passes the DN IBS a buzzer will ring at both the receiving and dispatching stations. On hearing the buzzer/bell the SM must acknowledge the same by pressing train entering section [TES] muting icon to stop the buzzer/bell and then send train entering section report to the station master of the station in advance who in turn will turn the commutator of the Double line Lock and Block Instrument from the line clear position to Train On Line position and acknowledge train entering section. After dispatch of a train from KSNG into the Block section, in case when the intermediate stop signal is not taken 'off' but the buzzer has started ringing, this may be either due to the train passing intermediate Block stop signal at 'ON' position or due to failure of the track circuit in advance of that intermediate Block Signal. The SM on duty will then inform the matter to SCR on duty and concerned S&T official.

The above procedure must be rigidly followed irrespective of the fact whether line clear for train has been received from station in advance or not and this must be recorded in the Train Signal Register and SM's diary book of both the Stations.

(i) Despatch of trains towards TIG station in case of failure of the DN Advance Starter signal due to failure of "IB Axle Counter" device or otherwise-.

If the failure of the DN Advanced starter of KSNG due to the failure of IB axle counting device or the indication showing 'Red' light either due to power failure or due to any other cause, the SM should resort to the resetting procedure mentioned in Para G(iv).

If it is not possible to restore normal working of the IBS by use of the resetting procedure, the ESM-in-charge of the section shall be served with a written memo to attend the defective signal and rectify the same. The ESM-in-charge of the section on being served with a memo by the SM shall attend the failure and rectify the fault. The ESM after ensuring that all S&T gears relating to defective signal have been attended to and are in working order except the axle counter which needs re-setting, shall establish communication with SM concerned and ask him to reset the IB axle counter by following the reset procedure mentioned in the Para G(iv). SM on duty shall follow the resetting procedure after ensuring that all the trains which had left his Block Station had arrived complete and intact at TIG (by exchanging of P.N with SM/TIG confirming this) for resumption of normal working.

Closure of IBS

The IBS shall be treated as closed/suspended under the following circumstances.

1) During failure of Axle counters.
2) During failure IB Home Signal.
3) During failure Block instrument.
4) During failure of IB track circuit.
   Under such circumstances entire section shall be treated as single section and trains are to be stopped and issued with written authority in form T/369(3b).

DESPATCH OF TRAINS IN CASE OF FAILURE OF INTERMEDIATE BLOCK STOP SIGNAL:

[a] When a Loco Pilot finds an intermediate Block Stop signal at 'ON' Position he shall stop his train in rear of the signal and advise the guard of the fact by sounding long continuous whistle and shall then contact the Station Master of the Block Station in rear over the signal post telephone provided for the purpose vide SR.3.75.01[i].

[b] If the SM of KSNG station, on being contacted over Telephone by the Loco pilot, finds that the signal is defective, he shall, after obtaining "Line Clear" for the train from the station in advance, authorize the Loco Pilot on the telephone to pass intermediate Block Signal at "ON" and enter the block section ahead. He shall give Loco Pilot the Private Number and identification Number under which he has received "Line Clear" for the train from the station in advance.
The Loco Pilot shall then sound one short, one long and one short whistle and, on receipt of Guard's signal shall proceed ahead duly exchanging signals with him. The station Master on being contacted by the Loco Pilot on signal post telephone if he is unable to obtain "Line Clear" for the train due to total interruption of communications, shall call for the Guard through the Loco Pilot and on being contacted by guard, he shall advise the guard of the circumstances and give a Private Number for the train to proceed up to the next block station. The guard shall prepare a memo in duplicate authorizing the Loco Pilot to proceed with the Private Number received from the Station Master. In such case the speed of the train shall be restricted as prescribed in GR 3.75(3).

[c] In such case the Loco Pilot shall pass the IB signal at "ON" and proceed cautiously and be prepared to stop short of any obstruction, at a speed not exceeding 15 Kilometers an hour if he has a good view of the line ahead otherwise, at a speed not exceeding 8 kilometers an hour and report the failure to the Station Master at the block station ahead.
While complying with the instructions contained in GR 3.75(3), when the Loco Pilot has to pass IB signal at "ON" after waiting for 5 minute at the signal, he shall proceed cautiously preparing to stop short of any obstruction at a speed not exceeding 15KMPH

when view ahead is clear and 8 KMPH when view ahead is not clear due to curve, obstruction, rain, fog or any other cause until he reaches the foot of the next stop signal and even the signal is "OFF" the Loco Pilot shall continue to look out for possible obstruction short of the same and will act upon its indication only after he has reached it. Before starting, the Loco Pilot shall sound one long whistle which may be repeated as necessary and shall then start his train on receipt of Guard's signal. Thereafter he shall exchange signals with the Guard.

On reaching the block station ahead the Loco Pilot shall report the failure of the signal to the Station Master. If the telephone is provided at the intermediate Block Stop signal Post is out of order the Loco Pilot will pass the IB signal as per GR 3.75(3) & SR 3.75.02, and on reaching the block station ahead, the Loco Pilot shall report the failure of the signal to the SM, Following train shall not be allowed to leave KSNG unless the complete arrival of the receiving train is certified by the SM on duty at KSNG under exchange of Private Numbers.

The station Master of the block station working the intermediate block stop signal on becoming aware that such a signal is defective shall, before dispatching the train, treat the entire section up to the block station immediately ahead of the intermediate block post as one block section and issue a written authority to the Loco Pilot to pass the defective intermediate Block Stop Signal at "ON" without stopping at the signal in accordance with the procedure prescribed by special instruction.

A written authority as mentioned in GR 3.75(4) shall be in Form T/369[3b] in which the Private Number and identification Number obtained from the station in advance in support of the "Line Clear" shall be recorded. Display of "Proceed hand signal at the foot of defective Intermediate Block Stop Signal may be dispensed with.

[d] However, if the SM on the Block station immediately in rear of an intermediate Block Signal is aware that DN intermediate Block Signal is defective shall before dispatching a train verify that all trains which had left his Block Station had arrived complete and intact at TIG station by exchanging Private Number with SM/TIG and shall follow the resetting procedure mentioned in the ParaG(iv). Thereafter Loco Pilot shall be handed over the authority of T-369[3b] to pass IBS Signal at "ON" position where in, the Private Number and identification number obtained for line clear shall also be written. After each such resetting process, next higher number is registered on the veeder Counter and the SM should record this, giving the details of the occasion with timings in the Veeder Counter register kept in the station.

J] **SPECIAL INSTRUCTION IN CASE OF A TRAIN PASSING IBS AT 'ON' POSITION:**

i) In case train run away indication appears the SM of receiving Station shall not turn the block instrument handle to line clear position and SM at sending station shall not take any action to dispatch the third train unless the second train which passed the IB signal at 'ON' position has actually arrived complete and is verified by the receiving station.

ii) Every case of a train passing IB signal at 'ON' position without strictly following the provision of GR 3.75 should be treated as a breach of block rule by the Loco Pilot and action to be taken accordingly.

iii) When train run away indication appears at the dispatching Station without any train in the section, then SMs should resort to train run away resetting procedure. If the same could not be reset the IBS system should be treated as failed and Signal Maintainer should be advised. All the subsequent trains shall be Piloted OUT after taking line clear and treating entire section as one Block section as per GR 3.75(4).

iv) Whenever a train after having obtained line clear passes IBS at "ON" position the train run away indication appears and no further train shall be allowed in the section till the said train arrives completely at the receiving station and its complete arrival report has been received at the receiving station supported by Private Number treating the entire block section as single section.

v) If any train passes IB Signal at 'ON' position when there is a train in the Section between IBS and the receiving station, the train run away indication will appear and the SM in the receiving station shall not turn the Block instrument to Line Clear position and SM at sending station shall not dispatch the (3^{rd}) train, unless the 2^{nd} train which passes the IBS at 'ON' position has actually arrived and its complete arrival is verified by the receiving station.

vi) Resetting procedure is to be followed as detailed in ParaG(iv) after verifying that the last vehicle of the runaway train has arrived intact and ensured by exchange of private number with the SM of the receiving station.

vii) Whenever a train run away indication appears when there is a train in the section, no further train should be allowed in the section till resetting is done.

viii) Before any resetting operation is done, the Dispatching station should advise the receiving station giving details of the last train that has entered the section and should ensure by exchange of private number that the last train has arrived complete at the receiving station. Every Case of re-setting shall be entered in a register in the following preform.

Date and time	Train No. Last entered the block section	Private No. of station ahead for Complete Arrival of the train Under Col.2	Veeder Counter No Before resetting operation completed	Train No. Entering Block section Immediately after the resetting operation	Remarks	Signature of SS/SM
1	2	3	4	5	6	7

ix) If resetting is not possible under item as mentioned above, the system should be treated as failed and train will work treating the entire section up to the Block Station immediately ahead of the IBS Post as one block section as per GR 3.75(4).

K] ACTION TO BE TAKEN WHEN A TRAIN PASSES INTERMEDIATE BLOCK STOP SIGNAL AT 'ON'

a) **By SM of receiving Station.**

i) Shall not turn the Block Instrument commutator to "Line Closed" Position Unless the complete arrival of the train which passed IBS at "ON" position is ensured, without any exception even for such a train which leaves the rear station after obtaining line clear and

passes IBS at "ON" position, since there is a chance of leaving a vehicle or vehicles in the Axle Counter area where the function of Axle Counter also fail.

ii) In case the bottom needle of the SGE type block instrument is in its 'Line closed' position, action should be taken to turn the block instrument commutator to 'TOL' Position vide BWM 5.16(2)(iv) and must not turn to "Line closed" and then to "Line clear" position unless the train which had passed the "Intermediate Block Stop Signal" at 'ON' position arrives complete and its complete arrival is verified.

b] **By the SM of both the block stations in rear and in advance of the intermediate Block Stop Signal**.

i) After the complete arrival of the last train, according to the information received vide sub-para (a) above, the SM of the receiving station shall communicate the same to the SM of the sending station supported by a Private Number which shall be acknowledged by the later by issuing Private Number. Thereafter the SM of the dispatching station and the SM of the receiving station shall resort to Resetting procedure. This simultaneous operation will cause the 'counter' to increase by one count at both the stations and SM shall record the next higher number in the register mentioned for the purpose and details of it.

ii) After completion of resetting procedure and normalization of IBS the SM of the Block Station in rear shall then take steps or authorize Station master of the receiving station supported by a Private Number to normalize the block instrument.

iii) In the event of failure of IBS signal in the "OFF" position or fails to go to "ON" position immediately after passage of train, the station master controlling the signal shall take steps to put back the IBS signal to "ON" position and treat IBS signal failed and train shall be dispatched treating entire section between his station and station in advance as one Block section.

L] **<u>RUNNING OF MOTOR TROLLEYS ON IBS ZONE</u>**:

i) While allowing motor trolley/4 wheeler tower wagon/material trolley etc., entire section between KSNG-TIG shall be treated as one block section and shall be issued T-369 [3B] for passing IBS at "ON" position.

ii) After the complete arrival of the said Motor Trolley/4 wheeler tower wagon/material trolley etc., at the station ahead, Station Master at adjacent station shall exchange Private Number in token of complete arrival and then shall resume normal working by resetting the Axle Counter as stated in the SWR.

iii) Motor Trolleys shall not be allowed on following line clear.

NOTE:- Backing of train on the portion of line after passing the intermediate Block Stop signal normally shall not be allowed, However, if it becomes inevitable to back, such backing may be done with great caution as mentioned in SR 3.75.04.

M**] <u>SIGNAL POST TELEPHONE:</u>**

A voice logger telephone with a Press button at the bottom is provided at the foot of IB stop signal post and is meant for Loco Pilot to contact the SS/SM in rear by pressing the button. The Loco Pilot of the train encountering the IB signal at 'ON' position shall contact the station in rear to find out the occupancy or otherwise of the block section ahead.

N] <u>NORMAL POWER SUPPLY TO IBS GOOMTIES:</u>

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

i) Normally AC supply from AT connected to OHE Traction distribution [230 V 50Hz].

ii) Normal power supply 110VDC to the Signaling & interlocking installation at the IBS is drawn from IPS.

iii) AC supply from Odisha State Electricity Board (OSEB)[Single phase 230 V 50Hz] to charge the IPS battery i.e. signaling & interlocking system for IBS.

iv) Alternate solar power supply system is provided to the IBS for charging the battery.

v) The minimum backup time of IPS battery is ten hours during failure of AC Power.

APPENDIX- 'G'

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS
KESINGA STATION

1. **GENERAL & SUBSIDIARY RULES:**

a) The rules applicable to electrified section have been given in chapter-XVII of the General Rules and in the subsidiary Rules made here under for electric traction. The General principles governing operation and maintenance of Traction Overhead Equipment, Electric locomotives, Signal & Telecommunications installations have been given in the A.C. traction manual. These rule books and an extract of the relevant paras of A.C. traction manual, shall be kept with the concerned staff shall make themselves thoroughly familiar with the same (GR. 17.01).

b) Brief reference to important rules required to be followed by Station/ Yard staff in their day-to-day work has been given in this Appendix. These are, however, illustrative and not exhaustive.

2. **GENERAL SAFETY PRECAUTIONS:**

a) All staff are warned that contract with or very near (within 2 meters, unless protected by a screen as per rules) to live portion of the 25 KV Traction Overhead Equipment is dangerous and shall be strictly avoided.

b) No work on overhead lines or in the zones within 2 meters of any live equipment shall be carried out unless a regular 'PERMIT TO WORK' has been obtained from the authorized Traction staff and the line has been made dead and earthed as per rules (GR 17.04) and ACTM para No.20600 to 20619 Vol. II Part. I.

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

a) A sectioning diagram No. RVNL/WAT/SWR/KSNG/22/2 indicating schematically the lines, which have been equipped with, for electric traction is exhibited. The diagram also indicates different electrical sections (Elementary Sections) the Controlling Switches or interrupters), insulated overlaps and section insulators where the overhead equipment is electrically separated. The limits of an electrical section (Sub-Sector or Elementary section) are indicated by the relevant section. A copy of this diagram is also enclosed with these special working rules and will form part of the same.

b) For all-purpose connected with Train movements and Power Blocks, this diagram is the only authorized document to be referred to the normal position of various switches is indicating on the diagram.

4. UNWIRED TRACKS:

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

5. OPERATING OF SWITCHES:

a) All switching operations shall be carried out in accordance with the instructions of the Traction Power Controller except in respect of switching operations for local blocks, which may be carried out by authorized traction staff, after they have been granted local blocks by the Station Master in accordance with S.R. 17.04.09 and ACTM para No. 20600,20601 of Vol.II. Part.I.

b) "In case of emergency, authorized and trained station staff may open Isolator switches under specific instructions of the Traction Power Controller (G.R. 17.04.14-B) with exchanging of Private Nos. to perform the operations of the following isolator switches as well as any other isolators within the station limit. Hence every station master shall be fully aware of the location of the isolator switches provided for the control of power supply of OHE at or near the station and shall be conversant with correct method of operating and closing the same (Competency certificate is provided after getting assurance)

For opening the switch: Release the lock of the switch and get the switch handle down with sudden jerk. Now the switch is open. Lock the switch again so that it cannot be closed without releasing the lock.

For closing the switch: Release the lock of the switch and get the switch handle up with sudden jerk. Now the switch is closed. Lock the switch again.

Note: While operating switch, station master must use insulated gloves.
The list of isolators with location number of KSNG are given below.

SI.No.	Isolator No.	Loc. No.
1.	SM-40	216/8A
2.	SM-41	216/11
3.	SM-42	215/40
4.	SM-43	215/15
5.	SM-44	215/4
6.	SM-45	214/48A
7.	SS-134	KSNG/1028
8.	SS-134A	KSNG/X-01 (N/O)
9.	SS-135	KSNG/1003
10.	SS-136A	KSNG/1025
11.	SS-136	KSNG/1027

6. POSITION OF SWITCH HANDLES (ISOLATORS):
When a switch is in the closed position, the operating handle of the switch is at the top.

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

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

9. POWER BLOCK:

a) The detailed procedure for obtaining power block has been given in G.R. 17.04.02, 17.03.03 & 17.04.04 and ACTM para 20603,20604,20611,20612 & 20613 which must be rigidly followed except in case of emergency.

b) The sequence of switching operations for granting and cancelling the Power Block for a particular section, are included in the Annexure. These shall be strictly followed by all staff. Failure to follow the sequence indicated is likely to lead to dangerous consequences. The protection of dead section is achieved by blocking the Concerned line in the VDU and placing red button collars on concerned buttons operating points and / or signals.

10. PROTECTION AT THE TIME OF POWER BLOCK:

a) All sections over which the Power Block has been granted shall be protected against entry of Electric Locomotive with pantograph raised from either end during the period of the Power Block (G.R. 17.04) and ACTM 20620, 20621 to 20627 of Vol.II, Part.I strict enforcement of longitudinal and transverse protection as per the Annexure attached shall be ensured before imposing power block. If there is/are locomotives on the section over which the power block to be given, the loco Pilot of such locomotives shall be given a memo by the Station Master on duty to lower the pantograph and not to raise it until further instructions and acknowledgement shall be obtained. The Loco Pilots shall not be given instructions to raise the pantograph till the power block is cancelled.

b) Station Master or station staff conducting shunting operation with electric locomotive shall ensure that under no circumstances, any electric locomotive approaches near the traction structure limiting elementary sections over which the power block has been granted. Limits of each electrical section at a station are shown in the Station Sectioning Diagram.

11. SECTION INSULATORS:

In order to isolate main and loop lines on different grids in the yard. Crossover/Turn-out connecting main and loop lines of different grids of the yard, are provided with section insulators, So that, when one line/or grid is made electrically dead and there be any fault on the same, the other line/grid is not affected. The speed of the electric locomotives with pantograph raised over such section insulators shall not exceed 50 KMPH subject to other speed restriction which may be in force. When one of the two sections separated by a Section Insulator is dead, the pantograph of the electric locomotive on the live section shall not proceed closer than 30 Ft. (10 Meters) towards the section insulator marking the end of the dead section.

12. BREAKDOWN OF TRACTION OVERHEAD EQUIPMENT:

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

13. REGISTER OF MESSAGES:

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

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14. MOVEMENT OF DIESEL ENGINES OR TRAINS HAULED BY SUCH ENGINES:
Goods or passenger trains hauled by other than electric locomotives may be allowed to pass through the dead section subject to the following conditions:-

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

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

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

17. CRANES:
No crane shall be worked on or near Traction Overhead equipment, unless such equipment is first made dead and earthed and an authorized representative of the OHE section is present (S.R. 17.04.07 (a) & (b)).

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

19. BLOCK INSTRUMENT OR ANY OTHER ELECTRICAL SIGNALLING EQUIPMENT:
The Station Mast/Cabin master on duty must always watch for any unusual working in the Block instrument or any other signalling equipment, which may arise due to voltage, induced from traction system. The Block instrument or the signalling Equipment must be suspended whenever there are any signs of unusual working and the nearest signal and Telecom, maintenance Inspector may be contacted to inspect and certify the same. In the event of a break of the OHE, the Station Master must immediately check-up whether all Block and signalling equipment are working normal before permitting any train movement.

20. TELECOMMUNICATION CIRCUITS:
Refer Para 5.0 of main body and Appendix "B" of this SWR.
The details of the Telecommunication facilities available on the electrified sections and the use of the same have been given at ACTM Para 10213, 10429 of Vol. I and Para 20703 of Vol. II part I.

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

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

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

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

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

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

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TRACTION DISTRIBUTION

SAFETY PRECAUTIONS AND ESSENTIAL INSTRUCTION FOR RUNNING AND OPERATING STAFF WORKING ON AC TRACTION AREA

DO(S) AND DON'T(s)

A. FOR ALL STAFF

a) DO(s)

1. In case of fire on Electric Traction Equipment of Wires.
   i. Inform traction Power Controller.
   ii. Extinguish fire by special extinguishers, if available.
   iii. Ensure no water jet is used under any circumstances.

2. Anything unusual on Traction Wire or Electric Locomotive inform traction Power Controller or nearest Station Master.

3. In emergency Traction Power Controller can be contacted on emergency telephone system. (Sockets for connecting emergency telephone are provided at intervals of approximately every kilometre and direction to nearest socket is indicated on OHE masts).

b) **DON'T(s)**

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

B. FOR RUNNING STAFF:

a) **DO(s)**

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

b) DON'T(s)

1. Do not lift or raise your tools towards traction wires (keep the tools in their respective position immediately after use).

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

C) <u>FOR OPERATING STAFF</u>

a) **DO(S)**

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

c) DON'T(s)

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

<u>NOTE: This Appendix 'G' super seeds earlier Appendix 'G' to SWR.</u>

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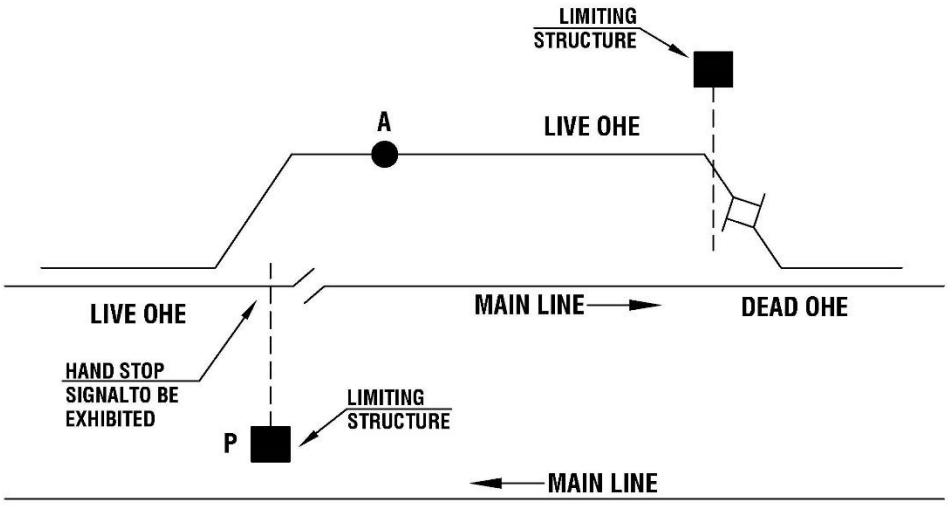
PROTECTION OF DEAD SECTION

The protection of a dead section is achieved by the following means:

1. a) In the normal running direction movements of trains are generally controlled by Signals. Protection is obtained by blocking the concerned route on the VDU.
   b) If the points and signals are locally operated they should be locked and the key should be kept with the Station Master on-duty.
   c) This action must be taken care by the Station Master on duty as case may be, in respect of each and every movement prescribed in the Station Working Rules and after completion, confirmation should be given to the Section Controller to enable him to agree for the power block to be issued by the TPC.

SHUNTING MOVEMENT TOWARDS DEAD SECTION

1) a) In case where no signal exists for controlling the entry of an electric train into the dead section the station master should arrange a hand stop signal to be exhibited at the point up to which alone the electric locomotive is allowed to proceed.
   b) If it is necessary for an electric locomotive to carry on shunting movement towards the dead section the section can be unblocked to permit the movement provided that a hand stop signal is exhibited and LP is specifically instructed not to move the loco beyond the point.
2) An example of the operation is given figure as shown below:



As per protection of Dead Section Para above the line/signal/point block feature controlling the signals should have blocked on them to give protection to the dead section. However, if it is essential to carry out at shunting operation with an electric locomotive situated at point 'A' on the loop line to move into the main though the turn out this may be permitted provided that the shunting movement is carried out only up to limiting mast 'P' short of the overlap span where a hand signal is to be exhibited to prevent all movement beyond the point 'P'.

3) Train or shunting movements by other than electric locomotives. i.e by steam or diesel locos may be permitted to enter the dead section. Provided that the Station Master ensures by personal inspection that the train formation does not include an electric locomotive or OHE inspection Car or EMU with pantograph raised and after issuing necessary caution order. The line block may be permitted to be unblocked to allow such movements.

HANDLING OF ISOLATOR SWITCHES – KESINGA STATION

1. The Duplicate keys for all outdoor switches shall be kept in locked glass fronted key box duly padlocked under the custody of SM on duty or with Competent OHE officials concerned persons stationed conveniently near the switches as the case may be. The keys shall be issued on demand only to authorised persons whose signatures for receipt shall be obtained in a look maintained for the purpose. The list of authorised OHE Officials who can withdraw the duplicate keys from the SM on duty is displayed at station duly signed by an officer of the Traction Distribution Department. These keys shall be handed over to the authorised officials by the SM or only after obtaining the permission from TPC.

2. In the event of breakage of the glass of the key box the key or keys shall be kept in safe custody of the SM on duty until the glass is replaced. The Traction power controller will keep a record where such keys are kept so that in an emergency he will be able to direct the parties concerned.

3. In an emergency the SM shall operate isolator switches as per specific direction of the Traction Power Controller under exchange of private numbers.

4. Should the traction Power controller wish to give any isolator switch opened or closed he shall as the Junior Engineer's / TRD or SM or any authorised person to carry out the required switching operation. The person concerned shall after carrying out the orders lock the switch either in "Open" or "Closed" position, as the case may be and inform the Traction Power Controller of the action taken. He shall not part with the key until receipt of further orders from the Traction Power Controller. A record of every such operation shall be maintained by TPC as well as by the SM in the power block register in RED ink.

5. Every Station manager or SM on duty shall be fully aware of the location of the isolator switches provided for the control of power supply to Over Head Equipment at the Station and shall be conversant with the correct method of opening and closing of the same in an emergency.

   Details of Isolators to be operated by station master/ assistant station master/ points men during emergency under instructions of Traction Power Controller (TPC).
   (Authority: Advanced Correction Slip No.24, dated 10.01.2013 to Railways Manual of AC Traction (ACTM), Vol-II, Part-I, Para: 20970-5 issued vide ED/(EEM)/Rly. Board's L/No.2001/Elect(G)/138/4 Pt.-I dated 10.01.2013 in consultation with Traffic Transportation Directorate of Railway Board)

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INSTRUCTIONS FOR ISOLATOR SWITCH OPERATION

OPERATION OF SWITCHES:

i) All switching operations shall be carried out in accordance with the instructions of the Traction Power Controller (TPC) except in respect of switching operations for local blocks which may be carried out by authorized traction staff after they have been granted local blocks by the Station master on duty in accordance with GR 17.04 and ACTM VOL II Part I Para 20600 and 20601.

ii) In times of emergency, authorized and trained station staff may open isolator switches under specified instructions of the Traction Power controller (TPC).

iii) Every station masters, points man shall be fully aware of the location of isolator switches provided for the control of Power supply to the overhead equipment at or near his station and shall be conversant with the correct method of opening and closing the same in an emergency (ACTM VOL II Part I Para 20624).

POSITION OF SWITCH HANDLES:

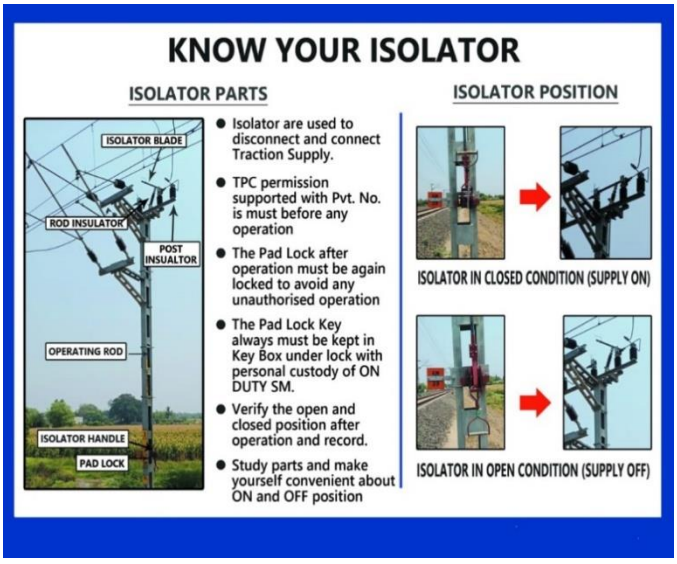
1. When an Isolator is in CLOSED position, the operating handle of the Isolator is at the TOP.
2. When an Isolator is in OPEN position, the operating handle of the isolator is at the BOTTOM.

NOTE: The operation handle of every isolator switch shall always be kept locked either in the open or closed position. Any loss shall be reported immediately to the OHE Section Charge man, Chief Traction Foreman (OHE) and TPC.

PROCEDURES AND PRECAUTIONS FOR OPERATING ISOLATORS:

The procedure for operation of Isolator switches has been given in SR 17.04.15 which must be rigidly observed. Isolator switch may be opened only after ensuring

1. If the isolator switch is on the main line that the adjacent Interrupters at the feeding end / ends of the adjacent interrupters at the feeding end / ends of the isolator switch has / have been opened.
2. Always use hand gloves and shoes while operating switches.
3. The switch must be operated in a jerk to avoid the arc formation.



Scan QR For Video of Switch Operation

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EAST COAST RAILWAY

STATION WORKING RULES FOR 25 KV AC ELECTRIC TRACTION FOR KESINGA STATION

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

SI. No.	Description of electrified section under P/B	Steps and Precautions to be taken during power block in respect of electric loco hauling trains or running light or standing		Sequence of Switching Operation for granting power block.	Sequence of Switching Operation for restoring OHE power.
		Longitudinal Protection	Transverse Protection		
	A. Sector :				
1.	Sector between KSNG/TSS to RPRD/SP. (All UP,DN & 3rd lines between KSNG TO RPRD/SP)	i) Movement of Electric Trains/Locos shall not be permitted into the sections KSNG-KLDR on UP, DN & 3RD lines. ii) Line clear shall not be granted to/obtained from KLDR for Electric Trains/Locos on both UP, DN& 3rd lines. iii) DN Reception & UP Dispatch signals shall be kept at 'ON'.	NIL	i) Ensure BX-125 at KSNG/TSS is in open position. ii) Ensure BM-104&105 at RPRD/SP are in open position. Open CB-111 at KSNG/TSS.	Close CB – 111 at KSNG/TSS.
2.	Sector between KSNG/TSS to BUDM/SP on SBP Line and to Muribahal/SP on TIG-Raipur line. (All UP & 3rd lines between KSNG to TIG, UP&DN Lines between TIG to BUDM/SP and UP & DN Lines between TIG to MRBL/SP of TIG-R line including all lines of KSNG Yard)	i) Movement of Electric Trains/Locos shall not be permitted into the sections KSNG-KLDR and KSNG-TIG on UP, DN& 3rd lines. Including all lines of KSNG/ Yard. ii) Line clear shall not be granted to/obtained from TIG for Electric Trains/Locos on both UP & DN lines. Including 3rd Line iii) Line clear shall not be granted to/obtained from KLDR for Electric Trains/Locos on UP, DN & 3Rd lines. iv) Concerned Dispatch & Reception signals Shall be kept at 'ON'.	NIL	i) Ensure BX-125 at KSNG/TSS is in open position. ii) Ensure BM-155&156 at BUDM/SP are in open position. iii) Ensure BM-255 & 256 at MRBL/SP are in open position Open CB – 113 at KSNG/TSS.	Close CB – 113 at KSNG/TSS.

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		Longitudinal Protection	Transverse Protection		
	B. SUB-SECTOR				
1.	DN sub-sector between KSNG/TSS to KDLR/SSP of section KDLR-KSNG on DN line. and L-3 & L-4 of KDLR/ Yard. (E/sections 12002, X-132 & 12004) of KDLR shall be automatically blocked.	i) Movement of Electric Trains/Locos shall not be permitted into the sections KDLR-KSNG on DN line. Including L-3&L-4 of KDLR YD ii) Line clear shall not be granted to KDLR for Electric Trains/Locos on DN line. iii) Concerned Shunt & DN Reception signals shall be kept at 'ON'.	NIL	i) Open BM – 120 at KSNG/TSS. ii) Open BM – 114 at KDLR/SSP.	i) Close BM – 114 at KDLR/SSP. ii) Close BM – 120 at KSNG/TSS.
2	DN sub-sector between KSNG/TSS to TIG/SSP of sections KDLR-KSNG-TIG on DN line. Including L-3&L-4 of KSNG YD. (E/sections 12202, X-134, 12204, 12206 and 12208, of TIG.	i) Movement of Electric Trains/Locos shall not be permitted into the sections KDLR-KSNG-TIG on DN line including DN Main line (L-3) and Common Loop line (L-4) at KSNG. ii) Line clear shall not be granted to KDLR for Electric Trains/Locos on DN line. iii) Line clear shall not be obtained from TIG for Electric Trains/Locos on DN line. iv) Shunting of Electric Trains/Locos shall be prohibited from L-2 to L-3 at both ends of the yard. v) Shunting of Electric Trains/Locos shall be prohibited from L-5 to L-4 at both ends of the yard vi) Ensure that no Electric Trains/Locos is standing with its panto raised condition on DN Main line (L-3) and Common Loop line (L-4) of the yard. vii) Concerned Shunt, DN Reception and DN Dispatch signals shall be kept at 'ON'..	Crossover point No. 52A/B, 54A/B& 58A/B at KDLR end shall be kept in normal position only. Crossover point No. 51A/B, 53A/B & 55A/B at TIG end shall be kept in normal position only.	Ensure SS-134A at loc. no. KSNG/XO-1 is in open position at KSNG/Yard. i) Open BM - 122 at KSNG/TSS ii) Open BM - 140 at TIG/SSP.	i) Close BM - 140 at TIG/SSP. ii) Close BM - 122 at KSNG/TSS.

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		Longitudinal Protection	Transverse Protection		
3.	UP sub-sector between KSNG/TSS – KDLR/SSP on UP line. Section RPRD-KDLR-KSNG Including L-1 & L-2 of KDLR Yard. (E/sections 11901 and 11903 & X-131 of KDLR)	i) Movement of Electric Trains/Locos shall not be permitted into the section KSNG-KDLR on UP line. ii) Line clear shall not be obtained from KDLR for Electric Trains/Locos on UP line. iii) UP Dispatch signals shall be kept at 'ON'.	NIL	i) Open BM-119 at KSNG/TSS ii) Open BM-113 at KDLR/SSP.	i) Close BM-113 at KDLR/SSP ii) Close BM-119 at KSNG/TSS
4.	UP sub-sector between KSNG/TSS to TIG/SSP of section KDLR-KSNG-TIG on UP line. Including L-1, L-2 & Goods siding at KSNG/Yard and L-1, L-2 ART and ARME SDG at TIG/ Yard. (E/sections 12301, 12303, 12305,X-135 & X-136 of KSNG and 12307, X-145, X-147, & X-149 of TIG.	i) Movement of Electric Trains/Locos shall not be permitted into TIG – KSNG – KDLR on UP line including UP Main line (L-2), Common Loop line (L-1) and Goods siding at KSNG. ii) Line clear shall not be granted to TIG for Electric Trains/Locos on UP line. iii) Line clear shall not be obtained from KDLR for Electric Trains/Locos on UP line. iv) Shunting of Electric Trains/Locos shall be prohibited from L-3 to L-2 at both ends of the Yard. v) Ensure that no Electric Trains/Locos is standing with its panto raised condition on UP Main line (L-2), Common Loop line (L-1) and Goods siding at KSNG. vi) Concerned Shunt, UP Reception and Dispatch signals shall be kept at 'ON'.	Crossover point No. 52A/B, & 54A/B at KDLR end shall be kept in normal position only. Crossover point No. 51A/B, & 55A/B at TIG end shall be kept in normal position only.	i) Open BM-123 at KSNG/TSS ii) Open BM-139 at TIG/SSP.	i) Close BM-139 at TIG/SSP. ii) Close BM-123 at KSNG/TSS.
5	3rd Line sub-sector between KSNG/TSS to KDLR/SSP of sections KDLR-KSNG on 3rdline. Including L-5&L-6 of KDLR/Yard. (E/sections 12101, 12102 and X-133of KDLR/Yard)	i) Movement of Electric Trains/Locos shall not be permitted into the sections RPRD-KDLR-KSNG on 3rd line. ii) Line clear shall not be granted/ obtained to/from KDLR UP/DN Electric Tains/ Locos on 3rd line. iii) Concerned UP& DN Reception and Dispatch signals shall be kept at 'ON'.	NIL	i) Open BM – 121 at KSNG/TSS. ii) Open BM – 115 at KDLR/SSP.	i) Close BM – 115 at KDLR/SSP. ii) Close BM – 121 at KSNG/TSS.

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SI. No.	Description of electrified section under P/B	Steps and Precautions to be taken during power block in respect of electric loco hauling trains or running light or standing		Sequence of Switching Operation for granting power block.	Sequence of Switching Operation for restoring OHE power.
		Longitudinal Protection	Transverse Protection		
6	3rd Line sub-sector between KSNG/TSS to TIG/SSP of sections KDLR-KSNG-TIG on 3rdline. Including L-5 of KSNG/ Yard. (E/sections 12401, 12402,12403 and 12404 of TIG L-4)	i) Movement of Electric Trains/Locos shall not be permitted into the sections KDLR-KSNG -TIG on 3rd line. ii) Line clear shall not be granted/ obtained to/from KDLR and TIG for UP/DN Electric Tains/ Locos on 3rd line. iii) Shunting of Electric Trains/Locos shall be prohibited from L-4 to L-5 at both ends of the Yard. iv) Concerned Shunt, UP& DN Reception and Dispatch signals shall be kept at 'ON'.	Crossover point No. 58A/B at KDLR end shall be kept in normal position only. Crossover point No. 53A/B at TIG end shall be kept in normal position only.	i) Open BM – 124 at KSNG/TSS ii) Open BM – 141 at TIG/SSP.	i) Close BM – 141at TIG/SSP. ii) Close BM – 124 at KSNG/TSS.
	C.ELEMENTARY SECTION:				
1	E/S No.12002 on DN Line between SM-38 of KDLR at Loc. No. 223/28 to PTFE neutral section of KSNG/TSS at loc.No.216/48.of Section KSNG-KDLR.	i) Movement of Electric Trains/Locos shall not be permitted into section KDLR-KSNG on DN line. ii) Line clear shall not be granted to KDLR for Electric Trains/Locos on DN line. iii) DN reception signals shall be kept at 'ON'.	NIL	i) Open SM-38 of KDLR at Loc. No.223/28 ii) Open BM-120 at KSNG/TSS	i) Close BM-120 at KSNG/TSS ii) Close SM-44 of KDLR at Loc. No.223/28.
2	E/S No.12202 on DN Line between PTFE neutral section of KSNG/TSS at loc.No.216/48 to SM-42 of KSNG at Loc. No. 215/40 of section KSNG-KDLR DN Line.	i) Movement of Electric Trains/Locos shall not be permitted into KSNG – KDLR on DN line ii) Line clear shall not be granted to KDLR for Electric Trains/Locos on DN line. iii) Shunting of Electric Trains/Locos shall be prohibited from L-2 to L-3 and L-3 to L-4 at KDLR end of the yard. iv) NO Electric Trains/Locos shall be Dispatched from Common Loop line (L-4) towards KDLR on UP line or towards TIG on DN line. v) Ensure that no Electric Trains/Locos is standing with its panto raised condition on DN Main line before SM-42 at KDLR end. vi) Concerned Shunt DN reception and UP dispatch signals of L-4 shall be kept at 'ON' & DN dispatch signal of L-4.	Crossover point No. 52A/B, 54A/B & &59A/B at KDLR end shall be kept in normal position only.	i) Close SS-134A of KSNG at loc. no. KSNG/ X-01. ii) Open SS-134 of KSNG at loc. no. KSNG/1028 iii) Open SM-42 of KSNG at Loc. No.215/40. iv) Open BM-122 at KSNG/TSS.	i) Close BM-122 at KSNG/TSS ii) Close SM-42 of KSNG at Loc. No.215/40 iii) Close SS-134 of KSNG at loc. No. KSNG/ 1028. iv) Open SS-134A of KSNG at loc. no. KSNG/ X-01.

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SI. No.	Description of electrified section under P/B	Steps and Precautions to be taken during power block in respect of electric loco hauling trains or running light or standing		Sequence of Switching Operation for granting power block.	Sequence of Switching Operation for restoring OHE power.
		Longitudinal Protection	Transverse Protection		
3	E/S No.12204 between. SM-42 of KSNG at Loc. No.215/40 to SM-44 of KSNG at Loc. No.215/4 of section KSNG-TIG DN Line & DN main line (L-3) .	i) Movement of Electric Trains/Locos shall not be permitted into DN Main line(l-3) at KSNG ii) DN Electric Trains/Locos from KDLR can be admitted on Common Loop line (L-4) and Common Loop line (L-1). iii) DN Electric Trains/Locos from L-4 is prohibited towards TIG. iv) Ensure that no Electric Trains/Locos is standing with its panto raised condition on DN line (L-3). v) Shunting of Electric Trains/Locos shall be prohibited from L-4 to L-3, L-2 to L-3 at TIG end of the yard. vi) Concerned Shunt, Reception and Dispatch signals for DN line shall be kept at 'ON'.	Crossover point No 55A/B, & 59A/B at TIG end shall be kept in normal position only.	i) Open SM-42 of KSNG at Loc. No.215/40. ii) Open SM-44 of at KSNG at Loc. No. 215/4.	i) Close SM-44 of at KSNG at Loc.No.215/4 ii) Close SM-42 of KSNG at Loc. No.215/40.
4	E/S No.12206 between. SM-44 of KSNG at Loc. No.215/4 to SM-52 of TIG at Loc. No.203/8 of section KSNG-TIG DN Line. .	i) Movement of Electric Trains/Locos shall not be permitted into KSNG-TIG on DN line. ii) Line clear shall not be obtained from TIG for Electric Trains/Locos on DN line. iii) DN Electric Trains/Locos from KDLR can be admitted on DN main L-3, Common Loop line (L-4) and Common Loop line (L-1) but cannot be dispatched towards TIG on DN line. iv) Shunting of Electric Trains/Locos shall be prohibited from L-3 to L-2 via Crossover 51A&B at TIG end of the Yard. v) Concerned Shunt, Reception and Dispatch signals for DN line shall be kept at 'ON'.	Crossover point No. 51A/B shall be kept in normal position only.	i) Open SM-52 of TIG at Loc. No.203/8. ii) Open SM-44 of KSNG at Loc. No.215/4.	i) Close-44 of KSNG at Loc. No.215/4. ii) Close SM-52 of TIG at Loc. No.203/8.
5	E/S No.11901 on UP Line between PTFE neutral section of KSNG/TSS at loc.No.216/47 to SM-37 of KDLR at Loc.No.223/19 of section KSNG-KDLR UP line.	i) Movement of Electric Trains/Locos shall not be permitted into section KSNG – KDLR on UP line. ii) Line clear shall not be obtained from KDLR for Electric Trains/Locos on UP line. iii) UP Dispatch signals shall be kept at 'ON'.	NIL	i) Open SM-37 of KDLR at Loc. No.223/19. ii) Open BM-119 at KSNG/TSS.	i) Close BM-119 of KSNG/TSS. ii) Close SM-37 of KDLR at Loc. No.223/19

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		Longitudinal Protection	Transverse Protection		
6	E/S No.12301 between SM-41 of KSNG at Loc. No.216/11 to PTFE neutral section of KSNG/TSS of loc.216/47 of section KSNG-KDLR on UP Line.	i) Movement of Electric Trains/Locos shall not be permitted into section KSNG –KDLR on UP line. ii) Line clear shall not be obtained from KDLR for Electric Trains/Locos on UP line. iii) Shunting of Electric Trains/Locos shall be prohibited from L-1 to L-2 at KDLR end vice versa. iv) Concerned Shunt & UP Dispatch signals shall be kept at 'ON'.	Crossover point No. 52A/B KDLR end shall be kept in normal position only.	i) Open SM-41 of KSNG at Loc. No. 216/11 ii) Open BM-123 at KSNG/TSS.	i) Close BM-123 of KSNG/TSS ii) Close SM-41 of KSNG at Loc. No.216/11.
7	E/S No.12303 on UP Main line at KSNG. Location from SM-41 of KSNG at Loc. No.216/11 to SM-43 of KSNG at Loc. No.215/15.	i) Movement of Electric Trains/Locos shall not be permitted into UP Main line L-2 KSNG. ii) UP Electric Trains/Locos from TIG can be admitted into Common Loop line (L-1) and Common line (L-4). iii) Electric Trains/Locos can be dispatched from Common Loop line (L-4) towards KDLR on UP line. iv) Electric Trains/Locos cannot be dispatched from Common Loop line (L-1) towards KDLR on UP line. v) Shunting of Electric Trains/Locos shall be prohibited from L-2 to L-1&L-3 at both ends of the yard vice versa. vi) Ensure that no Electric Trains/Locos is standing with its panto raised condition on UP Main line (L-2). vii) Concerned Shunt, UP Reception and Dispatch signals for UP Main line & UP Dispatch signal for Common Loop line (L-1) shall be kept at 'ON'.	Crossover point No. 54A/B and 60 A&B at KDLR end shall be kept in normal position only.	i) Open SM-41 of KSNG at Loc. No.216/11. ii) Open SM-43 of KSNG at Loc. No.215/15.	i) Close SM-43 of KSNG at Loc. No.215/15. ii) Close SM-41 of KSNG at Loc. No.216/11.
8	E/S No.12305 between SM-43 of KSNG at Loc. No.215/15 to SM-51 of TIG at Loc. No.203/17 on UP Line between section KSNG-TIG. (E/S No. X-135 on Common Loop line (L-1) and X-136 on Goods siding at KSNG also gets blocked automatically)	i) Movement of Electric Trains/Locos shall not be permitted into section KSNG-TIG on UP line including Common Loop line (L-1) and Goods siding at KSNG. ii) Line clear shall not be granted to TIG for Electric Trains/Locos on UP line. iii) No Electric Trains/Locos shall be admitted on common loop Line no-1 and UP main line no.-2.However UP Electric train standing on L-2 can be dispatched towards KDLR iv) Shunting of Electric Trains/Locos shall be prohibited from L-2 to L-1 at KDLR end and from L-3 & L-2 at TIG end and vice-versa. v) Ensure that no Electric Trains/Locos is standing with its panto raised condition on Common Loop line (L-1) and Goods siding. vi) UP reception signals for UP Main line Common Loop line and dispatch signal for Common Loop line no-1 shall be kept at 'ON'.	Crossover point No. 51A/B, 55A/B, at TIG end and 60A/B at KDLR shall be kept in normal position only.	i) Open SM-51 of TIG at Loc. No. 203/17 ii) Open SM-43 of KSNG at Loc. No.215/15.	i) Close SM-43 of KSNG at Loc. No.215/15 ii) Close SM-51 of TIG at Loc. No. 203/17

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		Longitudinal Protection	Transverse Protection		
9	E/S No.12101 between SM-39 of KDLR at Loc. No. 223/4A to PTFE neutral section of KSNG/TSS at loc. No. 216/44A on 3rd Line between KSNG-KDLR. Section.	i) Movement of Electric Trains/Locos shall not be permitted into section KDLR-KSNG on 3rd Line. ii) Line clear shall not be granted /obtained to/from KDLR for Electric Trains/Locos on 3rd line. iii) Concerned UP Dispatch & DN Reception signals shall be kept at 'ON'.	NIL	i) Open SM-39 of KDLR at Loc. No.223/4A ii) Open BM-121 at KSNG/TSS.	i) Close BM-121 at KSNG/TSS. ii) Close SM-39 of KDLR at Loc. No.223/4A.
10	E/S No.12401 between PTFE neutral section of KSNG/TSS at loc.No.216/8A to SM-40 of KSNG at Loc. No. 216/8A on 3rd Line section of KSNG-KDLR.	i) Movement of Electric Trains/Locos shall not be permitted into KSNG – KDLR on 3rd line including (L-5) at KSNG. ii) Line clear shall not be granted/obtained to/from KDLR for Electric Trains/Locos on 3rd line. iii) Shunting of Electric Trains/Locos shall be prohibited from L-5 to L-4 at KDLR end of the yard vice-versa iv) No Electric Trains/Locos can be admitted/Dispatched into/from 3rd Line Main line (L-5). v) However DN Electric train standing on L-5 can be dispatched towards TIG. vi) Concerned Shunt, Reception & Dispatch signals of L-5 shall be kept at 'ON'.	Crossover point No. 58A/B at KDLR end shall be kept in normal position only.	Ensure SS-134A of KSNG at loc.No.216/8A is in Open position i) Open SM-40 of KSNG at Loc. No. 216/8A ii) Open BM-124 at KSNG/TSS	i) Close BM-124 at KSNG/TSS ii) Close SM-40 of KSNG at Loc. No. 216/8A.
11	E/S No.12402 betweenSM-40 of KSNG at Loc. No. 216/8A to SM-45 of KSNG at Loc. No. 214/48A section KSNG-TIG 3rdLine including 3rd line Main Line (L-5) at KSNG.	i) Movement of Electric Trains/Locos shall not be permitted on 3rd line section KSNG-TIG including 3rd line Main line (L-5) at KSNG. ii) No Electric Trains/Locos can be admitted/Dispatched into/from 3rd Main line (L-5). iii) Line clear shall not be granted /obtained to/from TIG and KDLR for Electric Trains/Locos on 3rd line. iv) Shunting of Electric Trains/Locos shall be prohibited from L-5 to L-4 at both ends of the yard vice versa. v) Electric Trains/Locos can be Admitted/ Dispatched from/to Common Loop line (L-4) towards KDLR on 3rd line. vi) Ensure that no Electric Trains/Locos is standing with its panto raised condition on 3rd Main line (L-5). vii) Concerned Shunt, Reception & Dispatch signals of L-5 shall be kept at 'ON'.	Crossover point No. 53A/B at TIG end shall be kept in normal position only.	i) Open SM-40 of KSNG at Loc.No. 216/8A. ii) Open SM-45 of KSNG at loc.No.214 /48A	i) Close SM-45 of KSNG at Loc.No. 214/48A ii). Close SM-40 of KSNG at Loc.No. 216/8A.

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SI. No.	Description of electrified section under P/B	Steps and Precautions to be taken during power block in respect of electric loco hauling trains or running light or standing		Sequence of Switching Operation for granting power block.	Sequence of Switching Operation for restoring OHE power.
		Longitudinal Protection	Transverse Protection		
12	E/S No.12403 on 3rd line between SM-45 of KSNG at Loc. No. 214/48A to SM-53 of TIG at Loc. No. 203/30A section KSNG-TIG 3rdLine	i) Movement of Electric Trains/ Locos shall not be permitted on 3rd line into section KSNG-TIG. ii) Line clear shall not be granted /obtained to/from TIG for Electric Trains/Locos on 3rd line. iii) Concerned Shunt, Reception & Dispatch signals shall be kept at 'ON'.	NIL	i) Open SM-45 of KSNG at Loc. No. 214/48A. ii) Open SM-53 of TIG at Loc. No. 203/30A	i) Close SM-53 of TIG at Loc. No. 203/30A ii) Close SM-45 of KSNG at Loc. No. 214/48A.
13	E/S No.X-134 on Common Loop line (L-4).	i) Movement of Electric Trains/Locos shall not be permitted into Common Loop line (L-4) at KSNG. ii) Electric Trains/Locos cannot be admitted / dispatched into/from Common Loop line (L-4). iii) Ensure that no Electric Trains/Locos is standing with its panto raised condition on Common Loop line (L-4). iv) Shunting with Electric Locos shall be prohibited from L-4 to L-5& L-3 at both ends of the yard and vice-versa. v) Concerned Shunt, Reception and Dispatch signals for Common Loop line (L-4) shall be kept at 'ON'.	Crossover point No.56A/B & 58A/B at KDLR end shall be kept in normal position only. Crossover point No. 53A/B and 59A&B at TIG end shall be kept in normal position only.	Ensure SS-134A of KSNG at loc. No 216/8A is in Open position. Open SS-134 of KSNG at Loc. No. KSNG/1028.	Close SS-134 of KSNG at Loc. No. KSNG/1028
14	E/S No.X-135 on Common Loop line L-1 (E/S No.X-136 on Goods siding also gets blocked automatically)	i) Movement of Electric Trains/Locos shall not be permitted into Common Loop line (L-1) including Goods siding at KSNG. ii) Electric Trains/Locos cannot be admitted / dispatched into/from Common Loop line (L-1). iii) Ensure that no Electric Trains/Locos is standing with its panto raised condition on Common Loop line L-1 and Goods siding. iv) Shunting with Electric Locos shall be prohibited from L-2 to L-1 on both ends and at Goods siding. v) Concerned Shunt, Reception and Dispatch signals for Common Loop line (L-1 shall be kept at 'ON'.	Crossover point No. 60A/B at KDLR end shall be kept in normal position only. Crossover point No. 57A/B at TIG end shall be kept in normal position only.	Open SS-135 of KSNG at Loc. No. KSNG/1003.	Close SS-135 of KSNG at Loc. No. KSNG/1003

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SI. No.	Description of electrified section under P/B	Steps and Precautions to be taken during power block in respect of electric loco hauling trains or running light or standing		Sequence of Switching Operation for granting power block.	Sequence of Switching Operation for restoring OHE power.
		Longitudinal Protection	Transverse Protection		
15	E/S No. X-136 on Goods siding at KSNG.	i) Movement of Electric Trains/Locos shall not be permitted into Goods siding at KSNG. ii) No Electric Trains/Locos can be admitted/ dispatched into/from Goods siding from both ends. iii) Ensure that no Electric Locos is standing with its panto raised condition on Goods siding. iv) Loading work can be performed on Goods siding only after elementary section made dead.	Crossover point No. 62A/B ,68A/B at KDLR end shall be kept in normal position only.	i) Open SS-136 of KSNG at Loc. No. KSNG/1027 first. ii) Then open SS-136A of KSNG at Loc. No. KSNG/1025 .	i) Close SS-136A of KSNG at Loc. No. KSNG/1025 first. ii) Then close SS-136 of KSNG at Loc. No. KSNG/1027 .

NOTE:

i) For any unusual movement of Electric Locos, the Station Master on duty must refer to the working rule diagram from 25 KV AC traction of his station and ensured that there is no chance of energizing the section where power block has been granted.
ii) Points leading to unwired tracks shall not be used for the movement of Electric Loco with pantograph raised.
iii) Refer drawing No. RVNL/WAT/SWR/KSNG/22/2

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