EAST COAST RAILWAY

WALTAIR DIVISION

STATION WORKING RULES OF

KORAPUTSTATION

EAST COAST RAILYWAY

WALTAIR DIVISION

INDEX OF CORRECTION SLIPS

S No.	Correction Slip No.	Date of issue	Rule No.	Page Nos.

INDEX

S No	DESCRIPTION		PAGE No
1.	Station Working Rules	----------	1-22
2.	Appendix-A	----------	23-30
3.	Appendix-B	----------	31-56
4.	Appendix-C	----------	57
5.	Appendix-D	----------	58-59
6.	Appendix-E	----------	60
7.	Appendix-F	----------	61
8.	Appendix-G	----------	62

EAST COAST RAILWAY

WALTAIR DIVISION
STATION WORKING RULES OF KORAPUT [KRPU][BROAD GAUGE]

No.WTP/5/SWR/KRPU Date of Issue:
Date brought in force:

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 DIAGRAM:

a) Station Working Rule Diagram No:- SI/WRD/23236 ALT-'A'
b) CSTE/E.Co.Rly/DRG No:-SI-23236 ALT-'A'
c) Date up to which corrected:

(2) DESCRIPTION OF STATION:

2.1. GENERAL LOCATION:

a)	Name of the station	KORAPUT (KRPU)
b)	Class of station	'B' class
c)	Section	Kottavalasa-Kirandul
d)	Double Line/Single Line / Multiple Line	Double Line: KRPU-MVF & KRPU-DMRT Section Single Line: KRPU-SXV Section
e)	Electrified/Non-Electrified	Electrified
f)	Gauge BG/MG/NG	BG
g)	Railway	East Coast Railway
h)	Route	'D' Special
i)	Situated at	Km 189.907
j)	Reckoned from	Kottavalasa
k)	Operation	Centrally operated with Visual Display Unit (VDU).
l)	Type of Interlocking	Standard II (R)

2.2. BLOCK STATIONS, IBH, IBS ON EITHER SIDE AND THEIR DISTANCE AND OUT LYING SIDINGS:

S.No	Adjacent BlockStation	Distance	Direction
1.	MANABAR	6.832km	KRDL end
2.	DUMMURIPUT	10.775km	RGDA end
3.	SUKU	11.161km	KTV end
4.	Provision of IBS	Nil	
5.	Automatic signal	Nil	
6.	DK station/Outlaying sidings	Nil	
7.	Passenger halt	Nil	

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

Between Stations	The Point from which the Block section commences	The Point at which the 'Block Section' ends
MVF-KRPU DN Direction	The advance block section commences at DN advanced	Ends at BSLB of KRPU.

	starter signal No.26 of MVF.	
KRPU-MVF UP Direction	The rear block section commences at Up advanced starter signal No.49 of KRPU.	Ends at BSLB of MVF.
KRPU-DMRT DN Direction	The advance block section commences at DN advanced starter signal No.47 of KRPU.	Ends at first facing point No.36A of DMRT.
DMRT-KRPU UP Direction	The rear block section commences at Up advanced starter signal No.29ofDMRT.	Ends at first facing point No.87A of KRPU.
KRPU-SXV	The advance block section commences at DN advanced starter signal No.32 of KRPU.	Ends at UP Advanced Starter of SXV.

2.4. GRADIENTS:

Station towards		Chainage		Inter distance	Gradient
		From	To		
KRPU-MVF	UP	0.000 F/CSB	553.00M	553.00M	LEVEL
		553.00M	793.00M	240.00M	1 in 172Falling
		793.00M	2135.00M	1342.00M	1 in 100 Falling
		2135.00M	2573.00M	438.00M	1 in 629.3 Raising
		2573.00M	2893.00M	320.00M	1 in 110 Raising
		2893.00M	3113.00M	220.00M	1 in 161 Falling
		3113.00M	Into section	---	1 in 100 Falling
		Chainage		Inter distance	Gradient
		From	To		
	DN	0.000 F/CSB	553.00M	553.00M	LEVEL
		553.00M	1370.00M	817.00M	1 in 100 Falling
		1370.00M	1753.00M	383.00M	1 in 128.87 Falling
		1753.00M	2293.00M	540.00M	1 in 107 Falling
		2293.00M	2913.00M	620.00M	1 in 128 Raising
		2913.00M	3033.00M	120.00M	1 in 230 Falling
		3033.00M	3993.00M	960.00M	1 in 100 Falling
		3993.00M	Into section	---	1 in 117 Falling
KRPU-DMRT		Chainage		Inter distance	Gradient
		From	To		
	DN	0.000 F/CSB	400.00M	400.00M	LEVEL
		400.00M	848.00M	448.00M	1 in 127 Falling
		848.00M	1020.00M	172.00M	1 in 170 Falling
		1020.00M	1260.00M	240.00M	1 in 110 Falling
		1260.00M	1718.00M	458.00M	1 in 113 Falling
		1718.00M	1880.00M	162.00M	LEVEL
		1880.00M	2200.00M	320.00M	1 in 105.61 Raising
		2200.00M	2740.00M	540.00M	1 in 127 Raising
		2740.00M	2820.00M	80.00M	LEVEL
		2820.00M	3360.00M	540.00M	1 in 114.55 Raising
		3360.00M	Into section	---	LEVEL
		Chainage		Inter distance	Gradient
		From	To		
	UP	0.000 F/CSB	400.00M	400.00M	LEVEL
		400.00M	900.00M	500.00M	1 in 171 Falling
		900.00M	1248.00M	348.00M	1 in 103.8 Falling

		1248.00M	1539.00M	291.00M	1 in 100 Falling
		1539.00M	1690.00M	151.00M	1 in 113 Falling
		1690.00M	1890.00M	200.00M	LEVEL
		1890.00M	2340.00M	850.00M	1 in 116.9 Raising
		2340.00M	2800.00M	60.00M	LEVEL
		2800.00M	3240.00M	440.00M	1 in 130 Falling
		3240.00M	Into section	---	1 in 120 Falling

		Chainage		Inter Distance	Gradient
		From	To		
KRPU (BY PASS LINE)		0.000 F/Top PT (MVF end)	175.00M	175.00M	1 in 257 Raising
		175.00M	520.00M	345.00M	1 in 4570 Raising
		520.00M	710.00M	190.00M	1 in 119 Raising
		710.00M	781.00M	71.00M	1 in 255.4 Raising
		781.00M	In to KR DN Line	--	1 in 113 Falling

		Chainage		Inter Distance	Gradient
		From	To		
KRPU-SXV		0.000 F/CSB	1240.00M	1240.00M	1 in 822 Falling (L1 & L2)
		0.000 F/CSB	76.00M	76.00M	LEVEL (L3-L8)
		76.00M	1240.00M	1164.00M	1 in 771.37 Falling (L3-L8)
		1240.00M	1532.00M	292.00M	1 in 100 Falling
		1532.00M	1845.00M	313.00M	1 in 4471.4 Falling
		1845.00M	2332.00M	487.00M	1 in 1000 Falling
		2332.00M	2539.00M	207.00M	1 in 1000 Raising
		2539.00M	2857.00M	318.00M	1 in 100 Falling
		2857.00M	2957.00M	100.00M	1 in 110 Falling
		2957.00M	3157.00M	200.00M	1 in 193.4 Falling
		3157.00M	3657.00M	500.00M	LEVEL
		3657.00M	3757.00M	100.00M	1 in 325 Raising
		3757.00M	In to section	--	LEVEL

2.5. LAY OUT:

A) RUNNING LINES IN THE MAIN YARD:

S No	Name of the Line	Electrified/Non Electrified	Platforms with Length
1.	Line No.1(Common Loop)	Electrified	High level Passenger Platform (540M)[PF-1]
2.	Line No.2 (KK UP Main)	Electrified	High level Passenger Island Platform (360M x 10.66M) [PF-2 & 3]
3.	Line No.3 (KK DN Loop)	Electrified	
4.	Line No.4 (Common Loop)	Electrified	High level Passenger Island Platform (572M x 11M) [PF-4 & 5]
5.	Line No.5 (Common Loop)	Electrified	
6.	Line No.6 (Goods Loop)	Electrified	--

B) SIDINGS:

S.No	*Name of the*	*Electrified /Non*	*Platforms with*	*Isolation from*	*Description of Siding*

	Siding	*Electrified*	*Length*	*Running line*	
1.	Line No.7 (ART & ARME Siding)	Electrified	--	ARME Siding is Isolated by DS No.73 with Motor operated. ART Siding is isolated by DS No.86 with Motor operated.	Line No.7 comprises the ARME & ART sidings with dispatch facility on both sides. Common path in between ART & ARME with two cross overs is provided to dispatch the ART towards SXV end via Line No.8 and similarly dispatch the ARME towards MVF end via Line No.8.
2.	Line No.8 (CRANE Siding)	Electrified	--	Isolated by DS No.84 & 85 with Motor operated on both ends	Line No.8 comprises the CRANE siding with dispatch facility on both sides.
3.	Shunting Neck (towards SXV end)	Electrified	--	Isolated by DS No.79 with Motor operated.	Shunting Neck towards SXV end takes off from the overrun line of Line No.4 and terminates at Dead end. Shunting movement to and from the Shunting neck is governed by the Shunt signalsSH7(A-E), SH(16.30.34)B, SH(18.20) A.
4.	Sick Siding	Electrified	--	Isolated by DS No.81 with Motor operated.	Sick siding towards SXV end takes off from the overrun line of Line No.6 and terminates at Dead end. Shunting movement to and from the Sick Siding is governed by the Shunt signals SH9(A-C), SH(16.30.34)A.
5.	TM Siding	Electrified	3M wide Working platform.	Isolated by DS No.59 with Motor operated.	TM Siding towards SXV end takes off from the overrun line of Line No.1 and terminates at Dead end. Shunting movement to and from the TM Siding is governed by the Shunt signals

					SH5(A/B), SH(26.28)B
6.	Saloon Siding	Electrified	148M Long Plat form.	Isolated by Point No.61A/B with Motor operated.	Saloon Siding takes off towards SXV end on Line No.1 and terminates at Dead end towards Station end. Shunting movement to and from the Saloon Siding is governed by the Shunt signals SH3A, SH5A, SH28A/B.
7.	Shunting Neck (towards MVF end)	Electrified	--	Isolated by DS No.74with Motor operated.	Shunting Neck towards MVF end takes off from the overrun line of Line No.8 and terminates at Dead end. Shunting movement to and from the Shunting neck is governed by the Shunt signals SH44(A/B/C),SH(21.23.27)C.
8.	Tower Wagon Siding	Electrified	--	Isolated by DS No.58with Motor operated.	Tower Wagon Siding towards MVF end takes off from the overrun line of Line No.1 and terminates at Dead end. Shunting movement to and from the Tower Wagon Siding is governed by the Shunt signals SH10, SH11A.

2.5.1. RUNNING LINES, DIRECTION OF MOVEMENT& HOLDING CAPACITY IN CSL:

S.No	Name of the Line	Holding Capacity in CSL	Direction of movements
1.	Line No.1 (Common Loop)	886M (STR to STR)	a) Trains coming from SXV and proceeding towards MVF are UP trains. b) Trains coming from MVF and proceeding towards SXV or DMRT (via Bypass line) are DN trains. c) Trains coming from DMRT to KRPU or proceeding towards MVF (via Bypass Line) are UP trains. d) Trains going from KRPU to DMRT or coming from MVF (via Bypass Line) and
2.	Line No.2 (KK UP Main)	987M (STR to STR)	
3.	Line No.3 (KK DN Main)	1060M (STR to STR)	
4.	Line No.4 (Common Loop)	787M (STR to STR)	
5.	Line No.5 (Common Loop)	824M (STR to STR)	
6.	Line No.6 (Goods Loop)	795M (STR to STR)	

			proceeding towards DMRT are DN trains.

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

S.No	Name of the Line	Holding Capacity in CSL	Whether Electrified/Non-Electrified
1.	ART Siding	305M (STR to SH)	Electrified
2.	ARME Siding	156M (STR to SH)	Electrified
3.	Line No.8 (CRANE Siding)	155M (SH to SH)	Electrified
4.	Shunting Neck (towards SXV end)	484M (SH to SB)	Electrified
5.	Sick Siding	134M (SH to SB)	Electrified
6.	TM Siding	285M (SH to SB)	Electrified
7.	Saloon Siding	256M (SH to SB)	Electrified
8.	Shunting Neck (towards MVF end)	138M (SH to SB)	Electrified
9.	Tower Wagon Siding	18M (SH to SB)	Electrified

2.5.3. ANY SPECIAL FEATURES IN THE LAYOUT:

Koraput Station is provided with an integration of Koraput A & B Cabin. Koraput Station is having bye pass line between MVF and DMRT.

2.6. LEVEL CROSSINGS:

SNo	LC Gate No & KM	Class of Gate	Communication with Station	Type of Interlocking	Section
1.	KR-1, Km.2/17-18	'C' Class	KORAPUT	Non-Interlocked	KRPU-DMRT

(3) SYSTEM AND MEANS OF WORKING: -

System of Working in force	Absolute Block System of Working.
Double Line/Single Line	Double Line between KRPU-MVF, KRPU-DMRT and Single Line between KRPU-SXV.
Block Instruments	a) KRPU-MVF&KRPU-DMRTSection: SGE type Double line Lock and Block Instrument. b) KRPU-SXV Section: FM DAIDO type Token Less Block Instrument.
Co-operative/Non-Co-operative	a) KRPU-MVF&KRPU-DMRT Section: Non-Co-operative. b) KRPU-SXV Section: Co-operative.
Block Telephones	Attached with Block Instruments.
Staff responsible for custody of key and operations.	SM on duty

(4) SYSTEM OF SIGNALLING AND INTERLOCKING:

1.	*Standard of Interlocking*	Standard-II (R).
2.	*Type of signaling*	MACLS
3.	*Mode of operating the signals*	Electronic Interlocking (Visual Display Unit)
4.	*Provision of Calling-On signals*	Calling-on signals are provided below Home signals, Intermediate Home signals, Starter Signals and Intermediate Starter Signals (i.e. in both UP & Down

		directions) as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b).
5.	*Provision of shunt signals*	Shunt back signal SH3(A-I) is provided towards SXV end of the yard. Shunt Signals SH5(A/B), SH7(A-E), SH9(A-C) and SH28(A/B) are provided on TM Siding, Shunting Neck, Sick Siding and Saloon Siding towards SXV end respectively. Dependent Shunt Signals SH26(A/B), SH24(A/B), SH22, SH20(A/B), SH18(A/B) and SH16((A/B/C) are provided towards SXV end on Line No.1, 2, 3, 4, 5 and 6 respectively. Dependent Shunt Signal SH30(A/B/C) and Shunt Signal SH35 are provided on both sides of ARME Siding. Dependent Shunt Signal SH34(A/B/C) is provided for shunting towards SXV end on extended portion of Line No.8 i.e Crane siding. Shunt Signal SH37(A/B) is provided for shunting from extended portion of Line No.8 i.e Crane siding towards SXV end to Common path & Crane siding. Shunt Signals SH42 & SH29 are provided on both sides of Line No.8 i.e Crane Siding. Shunt Signals SH40(A/B) & SH25(A/B) are provided on both sides Common Path. Shunt Signal SH38(A/B) is provided for shunting from extended portion of Line No.8 i.e Crane siding towards MVF end to Common path & Crane siding. Dependent Shunt Signal SH27(A/B/C)is provided for shunting towards MVF end on extended portion of Line No.8 i.e Crane siding.Dependent Shunt Signals SH23(A/B/C) and Shunt Signal SH36 are provided on both sides of ART Siding.Dependent Shunt Signals SH11(A/B), SH13, SH15(A/B), SH17(A/B), SH19(A/B) and SH21(A/B/C) are provided towards MVF end on Line No.1, 2, 3, 4, 5 and 6 respectively. Shunt Signals SH10 and SH44(A/B/C) are provided on Tower Wagon Siding and Shunting Neck towards MVF end respectively. Shunt Back Signals SH4(A-F) and SH8(A-H) are provided on KR & KK lines respectively. Dependent Shunt Signals SH2(A/B) and SH6(A/B) are provided below intermediate Home Signals towards DMRT & MVF end respectively.
6.	*Emergency Cross-over*	Nil
7.	*Track circuits*	The provision of track circuits is mentioned in Appendix-B Para No.12 of this SWR.
8.	*Axle counters*	Provided High availability Single Section Digital Axle counter (HASSDAC) for last vehicle verification between KRPU-MVF& KRPU-DMRT Section on both UP and DN Lines. Provided Single Section Digital Axle Counter (SSDAC) for Last Vehicle verification between KRPU-SXV Section.High Availability Single Section Digital Axle Counter (HASSDAC) 1AXT & 2AXT are provided due to presence of Gridder bridge No.557 on KK DN Line & Gridder bridge No.1 (RUB) on KR DN Line towards MVF end and DMRT end respectively.
9.	*Crank Handles*	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 chapter-2, para-2.18 & 2.19 and Para No. 4.7 of Appendix-B. CH1 : 51A/B.53A/B. CH2 : 55A/B. CH3 : 57A/B. CH4 : 59.61A/B. CH5 : 65.67A/B.79. CH6 : 52A/B.54A/B. CH7 : 56A/B. CH8 : 60A/B.76A/B. CH9 : 63.71A/B.73.75.77.81. CH10 : 82A/B. CH11 : 70.72.74.80A/B.86.88. CH12 : 62.66. CH13 : 68. CH14 : 64A/B.78A/B. CH15 : 84. CH16 : 83A/B. CH17 : 85. CH18 : 87A/B. CH19 : 89A/B. CH20 : 92A/B. CH21 : 90A/B. CH22 : 58. CH23 : 69.
10.	*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. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose.
11.	*Showing of Veeder Counter*	The counters as mentioned in the Para No.11 of Appendix-'B' are provided in this station for record the Emergency operations. The increment in counter number for each and every such action should be recorded by the SM on duty who shall record the details of the Operation along with the latest counter number in a register.
12.	*Emergency Route Release operation*	This Electronic interlocking is based on the principle of 'DEAD APPROACH LOCKING'.As such, when a route is set and signal is taken off on the route, the route gets locked. Normally the route is released by the passage of the train over the route. When it becomes necessary to alter the route after the signal has been taken off vide SR 3.36.02 (a), the concerned signal must be put back to danger by click on the signal cancellation option on the menu (Main/Calling

		on) of the concerned signal, the signal will immediately go to ON aspect.The precondition for route release is, the route should have been set and the signal has been put back to danger. Click the Left mouse button on concerned Signal, the system would display a popup menu with a list of commands.Select the "**Route Release**" from the menu list.A white light will flash (UP or DN) indicating that the timer is working. After 120 seconds, the white light along with the white strip of light will disappear suggesting the route has been released. In case the route illumination (a white strip of lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised for rectification of fault. Each operation of emergency cancellation of route is recorded in the emergency route release counter by registering the next higher number. All such operations and the new number should be recorded in the station diary, train signal register& in the register meant for this purpose.
13.	*Emergency Crank Handle Release operation.*	Emergency crank handle release operation facility is provided to operate the point by using the crank handle in case of Route locked condition. For Emergency crank handle operation the procedure laid down in Para No.5.3, 5.3.1 & 5.3.2 of Appendix-'B' shall be followed. Each operation of emergency crank handle operation shall be recorded in the station diary, TSR and in the register meant for this purpose.

4.1. 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 and S&T staff has to follow the procedure as per JPO issued by COM and CSTE vide No. JPO/02/2012 dated 29.08.2012. Relay room is provided with two independent locks. The key of one lock shall be in the personnel custody of Station Master on duty and the key of other lock shall be in the custody of S&T Maintainer. In the event of necessity such as for attending failure, or regular maintenance, on being requisitioned by S&T maintainer, SM shall hand over the key to the Maintainer. On completion of the work, maintainer shall lock the relay room and shall return the key to SM. The particulars of such transactions shall be entered by the SM in the relay room key register vide OM 2015 Para No.13.16.

4.2. POWER SUPPLY:

The power supply arrangement for this station is described in detailed in the Para No.28& 29 of APPENDIX-B.

(5) TELECOMMUNICATIONS:

a) The station is connected to Kottavalasa-Koraputcontrol Circuit.

b) The station is connected to Kottavalasa-Koraput traction power control circuit.

c) Railway Auto Telephone provided at the station is connected to Divisional Exchange at WAT through Exchange at KRPU.

d) Telephones attached to Double line lock and block Instruments for KRPU-MVF& KRPU-DMRT section and Single line block instruments for KRPU-SXV section.

e) Telephone communication is provided between SM on duty and LC Gate No. KR-1 at Km.2/17-18.

f) Telephone communication is provided between KRPU-MVF, KRPU-DMRT and KRPU-SXV stations.

g) Telephone communication is provided between Station Master on duty and UP& DN CH Locations, 1AXT & 2AXT Zone Verification Locations.

h) 25w VHF set is provided at the station for emergency communication.

i) CUG Telephone is provided at the station.

5.1. FAILURE OF COMMUNICATION:

a) In the event of total failure of communications between the adjacent block stations SR 6.02.03 shall be observed for double line section and SR 6.02.04 shall be observed for Single line section for working the train.

b) In the event of partial interruption/failure of communications between the adjacent block stations SR 6.02.06 shall be observed for working the train.

(6) SYSTEM OF TRAIN WORKING:

6.1. DUTIES OF TRAIN WORKING STAFF:

The duties of Train working operational staff are detailed in Appendix-'D' of this SWR.

6.1.1. TRAIN WORKING STAFF IN EACH SHIFT:

COMPLEMENT OF STAFF	STAFF IN EACH SHIFT
STATION SUPERINTENDENT (In Charge)	01
SS/SM	01
TRAFFIC POINT MAN	01

The above staff shall work as per roster issued from time to time by DivisionalRailway Manager (P) and these rosters shall be conspicuouslydisplayed in the Station Master's office.

6.1.2. RESPONSIBILITY FOR ASCERTAINING CLEARANCE OF LINES AND ZONES OF RESPONSIBILITY:

The SM on duty is responsible to ascertain the clearance of the nominated line between Home Signal and advanced starter signal in each direction.The private number book should be under the custody of SM on duty that is authorized to use it.

6.1.3. ASSURANCE OF THE STAFF IN THE 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 the SWR thoroughly and understood the system of working in force at the station and must sign such declaration.

No Railway servant shall be entrusted with any duty involving the safety of the public unless the SM (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 SM (In-Charge) is responsible to see that all the staff are well conversant with the Station Working Rules of the Station 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 Class-IV staff, their signature/thumb impression must be obtained after explaining full about their duties and responsibility.

The SM (In-Charge) is personally responsible for maintaining the Assurance Register and for obtaining declaration from the staff working under him. The Assurance Register must be maintained in two parts one for Group-'C' staff and other for Group-'D' staff & duplicate copy of the Assurance Register must be maintained and kept in the personal custody by the SM (In-Charge).

Fresh assurance shall be obtained in the Assurance Register when:
1. He joins at the station as a new member.
2. There is any change in the Station Working Rules.
3. He resumes duty at the station after an absence of 15 consecutive days or more.

6.2. CONDITIONS FOR GRANTING LINE CLEAR:

a) The trains are worked under Absolute block system of working with Double line between KRPU-MVF, KRPU-DMRT &with Single line KRPU-SXV and MACLS signaling vide GR 8.03.

b) Adequate distances for reception of trains in this station as follows.

Line No.	Up Trains		DN trains	
	From	To	From	To
Line No.1 (Common Loop)	UP Starter Signal No.11	Up to DS No.58 on Overrun Line OR UP intermediate Starter Signal No.31 (KK)	DN Starter Signal No.26	Up to DS No.59 on Overrun line OR DN Advanced Starter Signal No.32 (KK)
Line No.2 (KK UP Main)	UP Main Starter Signal No.13	UP Intermediate Starter Signal No.31 (KK)	----	----
Line No.3 (KK DN Main)	----	----	DN Starter Signal No.22.	Up to DS (Controlled by 93) on Overrun Line OR DN Advanced Starter Signal No.32 (KK)
Line No.4 (Common Loop)	UP Starter Signal No.17.	Up to DS No.68. OR UP intermediate Starter Signal No.31 (KK) OR DN Intermediate Starter Signal	DN Starter Signal No.20	Up to DS No.69. OR DN Advanced Starter Signal No.32 (KK)

		No.33 (KR).		
Line No.5 (Common Loop)	UP Starter Signal No.19.	Up to DS No.66. OR UP intermediate Starter Signal No.31 (KK) OR DN Intermediate Starter Signal No.33 (KR).	DN Starter Signal No.18	Up to DS No.79 on Overrun line OR DN Advanced Starter Signal No.32 (KK)
Line No.6 (Goods Loop)	UP Starter Signal No.21.	Up to DS No.74 on Overrun line OR UP intermediate Starter Signal No.31 (KK) OR DN Intermediate Starter Signal No.33 (KR).	DN Starter Signal No.16	Up to DS No.81 on Overrun line OR DN Advanced Starter Signal No.32 (KK)
Bye Pass Line	UP Starter Signal No.39.	The end of Overrun line OR UP intermediate Starter Signal No.49 (KK).	DN Starter Signal No.41	The end of Overrun line OR DN Advanced Starter Signal No.47 (KR).

6.2.1. <u>ANY SPECIAL CONDITIONS TO BE OBSERVED WHILE RECEIVING ORDESPACTHING A TRAIN</u>:-

--NIL--

6.2.1.1. <u>SETTING OF POINTS AGAINST BLOCKED LINE:</u>

When a running line is blocked by stabled load wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train at the station etc., the points in rear end should immediately be set against the blocked line except when shunting or any other movement is required to be done on that line [Refer SR.3.51.06 (a)].

<u>Safety Point Alarm Unit (SPAU):</u>

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.

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 observance of other precautions [Refer SR 5.04.01 & SR 5.23.01].

6.2.1.2. RECEPTION OF A TRAIN ON BLOCKED LINE:

Trains are to be admitted on a blocked line, by taking off calling-on signal as per GR 5.09(2) (a) or if calling signal cannot be taken off, trains are to be piloted in on a written authority on Form T/509 given by SM on duty and delivered by a competent railway servant to the Loco Pilot of the train as per GR 5.09 (2)(C)(3)(4)(5) and SR 5.09.01.

6.2.1.3. RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

--NIL--

6.2.1.4. DESPATCH OF TRAIN FROM NON-SIGNALLED LINE:

--NIL--

6.2.1.5. DESPATCH OF TRAIN FROM LINE PROVIDED WITH COMMONSTARTER SIGNAL:

--NIL--

6.2.1.6. ANY SPECIAL CONDITIONS:

a) SPECIAL RESTRICTIONS:

--NIL--

b) SPECIAL INSTRUCTIONS:

1. Starter Signal No.11, 15, 16, 18, 19, 21, 22, 23, 24, 26, 27, 30, 34, 39 & 41 are placed 3M from glued joint as per Railway Board Letter No. (i) 2012/SIG/SEM-II/Misc, dated 10.10.2012, and (ii) 2012/Saftey(A&R)/19/5 dated 13.06.2013.

2. No Load shall be stabled on Non-Isolated Lines without Live Locomotive attached. Otherwise vehicle shall be secured as per Railway Board Letter No. 2012/Safety/A&R/19/1 Dt. 04.12.2018.

3. Due to existence of gradient steeper than 1 in 400 beyond 50M of outer most points of this station the following stipulations are followed vide SOD revised 2004, Chapter-2, Note (E) of Item No.2.

   a) While shunting towards UP Intermediate Starter Signal No.31 (KK), DN Intermediate Starter Signal No.33 (KR) and DN Advanced Starter Signal No.32 a Live Engine to be attached towards falling side of the gradient and GR 5.20 to be strictly followed.

   b) Trains should not be drawn up to the UP Intermediate Starter Signal No.31 (KK) towards MVF end, DN Intermediate Starter Signal No.33 (KR) towards DMRT end and DN Advanced Starter Signal No.32 towards SXV endas the case may be and held up on the steep gradient in order to clear the reception line for giving permission to approach to the following train.

4. CSL of Line No.1, 2, 3 & 5 are more than 800M to avoid premature release of Overlap, Overlap release will initiate only when rear portion point zone track circuit is clear and when

   a) L1T2/L1T3 in UP direction and L1T1/L1T2 in DN direction for Line No.1 is occupied.
   b) L2T4/L2T3 in UP direction for Line No.2 is occupied.

c) L3T1/L3T2 in DN direction for Line No.3 is occupied.
d) L5T2/L5T3 in UP direction and L5T1/L5T2 in DN direction for Line No.5 is occupied.

6.3. CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS: -

The SM on duty shall nominate a Clear line not only up to the station but also for an adequate distance beyond it for reception of trains. (Refer GR. 3.36, 3.40, 4.17 and SR 3.36.01, 3.36.02, 3.36.04, 3.40.01, 3.40.02, 3.47.01, 4.17.02 and Block Working manual)

6.3.1. RESPONSIBILITY OF STATION MASTER FOR RESTORATION OFSIGNALS TO "ON":

Station master should ensure that signal is put back to 'ON' after passage of the train as per GR 3.36 (2) (b).

6.4. SIMULTANEOUS RECEPTION/DESPACTH, CROSSING AND PRECEDANCE OF TRAINS:

The following simultaneous reception and dispatch facilities are provided at this station.

1.	Reception of UP train from SXV end on Line No.1 setting overlaps toDS No.58(CommonLoop).	AND	Dispatch of an UP train towards KK Line either from Line No.2 or 4 or 5 or 6 or 7 or 8.
2.	Reception of UP train from SXV end on Line No.2 setting overlaps to Intermediate Starter Signal No.31 (KK). (UP Main Line).	AND	Reception of DN train from KK Line to Line No.3 or 4 or 5 or 6. OR Reception of an UP train from KR Line to Line No.3 or 4 or 5 or 6.
3.	Reception of UP train from SXV end on Line No.4 setting overlaps to DS No.68 (Common Loop).	AND	Dispatch of anUP train towards KK Line either from Line No.1 or 2 or 5 or 6 or 7 or 8. OR Dispatch of DN train toward KR Line either from Line No.5 or 6 or 7 or 8. OR Reception of DN train from KK Line to Line No.1 or 6.
4.	Reception of UP train from SXV end on Line No.5 setting overlaps to DS No.66 (Common Loop).	AND	Dispatch of anUP train towards KK Line either from Line No.1 or 2 or 4 or 6 or 7 or 8. OR Dispatch of DN train toward KR Line either from Line No.4 or 6 or 7 or 8. OR Reception of DN train from KK Line to Line No.1 or 4 or 6. OR Reception of an UP train from KR Line to Line No.4 or 6.
5.	Reception of UP train from SXV end on Line No.6 setting overlaps to DS No.74 (Goods Loop).	AND	Dispatch of anUP train towards KK Line either from Line No.1 or 2 or 4 or 5. OR

			Dispatch of DN train toward KR Line either from Line No.4 or 5. OR Reception of DN train from KK Line to Line No.1 or 4. OR Reception of an UP train from KR Line to Line No.4.
6.	Reception of DN train from KK Line on Line No.6 setting overlaps toDS No.81 (Goods Loop).	AND	Dispatch of DN train from Line No.1 or 3 or 4 or 5. OR Reception ofan UP train from SXV end to Line no.1 or 2 or 4 or 5.
7.	Reception of DN train from KK Line on Line No.5 setting overlaps to DS No.79(Common Loop).	AND	Dispatch of DN train from Line No.1 or 3. OR Reception of an UP train from SXV end to Line no.1 or 2.
8.	Reception of DN train from KK Line on Line No.4 setting overlaps to DS No.69 (Common Loop).	AND	Dispatch of DN train from Line No.1 or 3 or 5 or 6 or 7 or 8. OR Reception of an UP train from SXV end to Line no.1 or 2 or 5 or 6. OR Reception of an UP train from KR Line on Line No.5 or 6.
9.	Reception of DN train from KK Line on Line No.3 setting overlaps to DS (Controlled by 93) (KK DN Main Line).	AND	Dispatch of DN train from Line No.1. OR Reception of an UP train from SXV end to Line no.1 or 2. OR Reception of an UP train from KR Line on Line No.4 or 5 or 6.
10.	Reception of DN train from KK Line on Line No.1 setting overlaps to DS No.59 (Common Loop).	AND	Dispatch of DN train from Line No.3 or 5 or 6 or 7 or 8. OR Reception of an UP train from SXV end to Line no.4 or 5 or 6. OR Reception of an UP train from KR Line on Line No.3 or 4 or 5 or 6.
11.	Reception of UP train from KR Line on Line No.6 setting overlaps to DS No.81 (Goods Loop).	AND	Dispatch of DN train from Line No.1 or 3 or 4 or 5. OR Reception of an UP train from SXV end to Line no.1 or 2 or 4 or 5. OR Reception of DN train from KK Line on Line No.1 or 3 or 4.
12.	Reception of UP train from KR Line on Line No.5 setting overlaps to DS No.79 (Common Loop).	AND	Dispatch of DN train from Line No.1 or 3. OR Reception of an UP train from SXV end to Line no.1 or 2. OR

			Reception of DN train from KK Line on Line No.1 or 3 or 4.
13.	Reception of UP train from KR Line on Line No.4 setting overlaps to DS No.69 (Common Loop).	AND	Dispatch of DN train from Line No.1 or 3 or 5 or 6 or 7 or 8. OR Reception of an UP train from SXV end to Line no.1 or 2 or 5 or 6. OR Reception of DN train from KK Line on Line No.1 or 3.
14.	Reception of DN train from KR Line on Line No.3 setting overlaps to DS (Controlled by 93) (KK DN Main Line).	AND	Dispatch of DN train from Line No.1. OR Reception of an UP train from SXV end to Line no.1 or 2. OR Reception of DN train from KK Line on Line No.1.
15.	Reception of DN train from KK Line on Bye pass Line setting overlaps toOverrun line. (Bye Pass Line).	AND	Dispatch of DN train on KR Line towards DMRT end.
16.	Reception of UP train from KR Line on Bye pass Line setting overlaps to Overrun line. (Bye Pass Line).	AND	Dispatch of UP train on KK Line towards MVF end. OR Reception of DN train from KK Line.

6.5. COMPLETE ARRIVAL OF TRAINS:

The entire block section between KRPU-MVF& KRPU-DMRT on both UP and DN lines are provided with High Availability Single Section Digital Axle Counter and between KRPU-SXV is provided with Single Section Digital Axle Counter.

For Section KRPU-MVF:

A Pair of High Availability Single Section Digital axle counter (HASSDAC) is provided between KRPU-MVF one at just beyond UP advanced starter signal no.49 of KRPU and another on 1T2 track circuit of MVF and another pair of High Availability Single Section Digital Axle Counter (HASSDAC) is provided between MVF-KRPU one at just beyond DN Advanced Starter signal No.26 of MVF and another on 14T2Track circuit of KRPU for last vehicle verification.

For Section KRPU-DMRT:

A Pair of High Availability Single Section Digital axle counter (HASSDAC) is provided between KRPU-DMRT one at just beyond DN advanced starter signal no.47 of KRPU and another on 2T2 track circuit of DMRT and another pair of High Availability Single Section Digital Axle Counter (HASSDAC) is provided between DMRT-KRPU one at just beyond UP Advanced Starter signal No.29 of DMRT and another on 12T2Track circuit of KRPU for last vehicle verification.

For Section SXV-KRPU:

A Pair of Single SectionDigital axle counter (SSDAC) is provided between KRPU-SXV one at just beyond DN advanced starter signal no.32 of KRPU and another on 2T track circuit of SXVfor last vehicle verification.

The position of the Block section whether cleared or occupied is reflected in the axle counter reset box and 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 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 GR.14.13 is to be followed. The axle counters are interlocked with the respective block instruments for that section. If axle counter fails, Advanced Starter signal and IB Home Signals as the case may be cannot be taken off for next train and the concerned instrument shall remain locked in last operated position.

A resetting arrangement is provided in the SM office to reset the system to normal position in case of failure of both the systems of Axle counter for HASSDAC and in case of failure of Axle Counter for SSDAC. The resetting to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at either end of the block section. Details of resetting procedure is given in Appendix-'B'

Note:
Before taking off reception and dispatch signals for UP or down directions the SM on duty should ensure that the entire route including overlap and berthing portion is clear of all obstructions by observing the Track indication/Axle counter indication.

6.6. DESPATCH OF TRAINS:

a) Dispatch of trains is governed by the provisions of GR. 3.42 and SRs 3.36.04(b), 3.42.04; 3.42.01(a) and BWM 3.07(5)(a), (e), (f) & (g) and other relevant provisions of G & SR, BWM and SWR.

b) **DESPATCH OF TRAINS FROM NON-SIGNALLED LINE:**

Dispatch of trains from non-signalled line is governed by the provision of GR 5.11 and SR 5.11.01.

c) **ISSUE OF CAUTION ORDERS:**

Whenever in consequence of the line being under repairs or for any other reasons special precautions are necessary a Caution Order detailing the Kilometres and Speed at which train should run with reasons for taking such precautions shall be handed over to the Guard and Loco Pilot in terms of GR 4.09 and SR thereto.

6.7. TRAINS RUNNING THROUGH:

In addition to the procedure detailed in paras ‘‘Reception and Dispatch of trains’’ rules laid down in GR 3.40, 4.17, 4.42 with relevant SRs 3.42.02 (a) (iii) and other relevant provisions of G&SR, BWM, OM shall be followed. (Refer GR 4.1, 4.11(2)).

6.8. WORKING IN CASE OF FAILURE:

Track Circuits	In case of failure of track circuits, the clearance of the

	concerned line should be ensured physically including foul track circuits if any by the SM on duty before a train is piloted.
Axle Counters	If the axle counter fails between the block sections, resetting procedure should be adopted as per Para 6.1 of SWR (APP-B). If the axle counter indication does not appear 'GREEN & continues to show 'RED' condition after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SE (signal) for their rectification.
Block Instruments	In the event of failure of block instrument, the concerned block instrument shall be suspended till its rectification and trains shall work as per GR (Refer SR 6.02.03, 6.02.04 & 6.02.06) BWM 6.22 & 5.43.
Receptionof a train on obstructed line	Trains are to be admitted on a blocked line, by taking off calling-on signal as per GR 5.09(2)(a) or if calling signal cannot be taken off, trains are to be piloted as per GR 5.09(2)(C)(3)(4) (5) and SR 5.09.01.
Receptionof a train on non-signalled line	NIL
Defective Signals	Whenever signals become defective, the procedure laid down in GR 3.68 to 3.71and SR 3.68.01 (c) shall be followed. 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 laid down in GR and the relevant SRs (Refer 3.69, 3.49 (4), 3.68, 3.69, 3.70, 3.71, 3.74 & 3.76).
Defective Interlocking	When interlocking becomes defective the SM on duty shall be responsible for correct setting, clamping, padlocking of points for admission of train. [Refer SR 3.69.03 (c) & 3.69.01].
Defective/Damaged Points	When any point fails to operate normally by the route setting operation or individually 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 the use of crank handle (GR 3.77).

6.9. PROVISIONSFOR WORKING OF TROLLIES/MOTOR TROLLIES/MATERIALLORRIES ETC":

a) The section where Axle Counters are provided in Lieu of track Circuits, trolleys, Motor trolleys, Lorries etc., which are not insulated shall not be allowed to run except on Line clear.

b) Motor trolleys shall be worked as per GR 15.25 and SR thereto, BWM 5.39, 5.40, 5.41, 6.11(1)(2), 6.12, 6.13, 6.14(2)(a) and circulars and orders issued from time to time.

c) Material Lorries shall be worked as per GR 15.27 and SRs thereto and in accordance with the provisions of Block Working Manual.

d) Tower Wagon/OHE cars shall be worked as per GR 17.08 and SR thereto and BWM 4.39.

(7) BLOCKING OF THE 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 procedure laid in para-No.5.4.1 & 5.4.2 of Appendix-B. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary 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. [GR 5.23 and SR 5.23.01]

(8) SHUNTING:

8.1. GENERAL PRECAUTIONS:

The rules laid down in GR 3.46, 3.52 to 3.56, 5.13,5.14,5.16 to 5.23, 8.05,8.06, 8.14 and 8.15 with relevant SR's and BWM 3.15, 3.21, 5.36, 5.37, 5.38 & 6.15 shall be followed.

All shunt movements shall be supervised by Guard/SM on duty or by a competent Railway servant deputed by SM on duty as the case may be. The authority for shunting shall be the taken off of shunt Signal or on form T/806 whichever is applicable. The limit up to which shunting is permitted and the line involved must write on the shunting authority.

8.2. SHUNTING IN FACE OF AN APPROACHING TRAIN:

Shunting in face of an approaching train is prohibited on both ends vide GR 8.09.02 (ii) (a).

8.3. PROHIBITION OF SHUNTING, SPECIAL FEATURES IF ANY:

i) Hand shunting is prohibited at both ends of the yard vide GR 5.20.
ii) Fly shunting is prohibited at both ends of the yard vide SR 5.21.01 (c).
iii) Engine to be attached towards falling gradient i.e towards station section at KRPU end.
iv) While Shunting on Gradient towards DN Advanced Starter No.32 (SXV end), DN Intermediate Starter Signal No.33 (DMRT end) & UP Intermediate Starter Signal No.31 an engine is to be attached towards the falling side of the gradient GR 5.20(b) to be strictly followed.

8.4. SHUNTING ON SINGLE LINE:

i) Within station section: Shunting within station may be carried on within the station section up to Advanced starter, provided the necessary Reception Signals are kept at ON vide GR 8.10 (1). But this shall be done only when there is no approaching train since shunting in the face of an approaching train is prohibited at this station.

ii) Beyond Station Section: Governed by GR 8.12 and BWM 3.15, 5.36& 5.37.

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 8.13and BWM 3.15 & 5.38.

iv) During failure of Block Instrument: Block back messages shall be exchanged between Station Master at either end of the section with is intended to be obstructed supported by private number. Both the Station Masters shall fix line block collars on respective Block Instruments and shall continue shunting provided the Block Section is clear.

8.5. <u>SHUNTING ON DOUBLE LINE:</u>

a)	*Block back*	The procedure of Block Back given in BWM 3.21 & 6.15 shall be followed
b)	*Block Forward*	GR 8.05& SRs there to and BWM 3.21 & 6.15 shall be followed.
c)	*During failure of Block Instrument*	Shunting in the block section in advance/in rear shall not be performed unless the section is clear of all obstructions and the block section is Blocked back/Blocked forward as the case may be. SM shall fix the line block collars on respective Block Instrument.

8.6. <u>SHUNTING IN THE SIDING TAKING OFF FROM THE STATION YARD</u>:

*1) Shunting Neck (towards SXV end):*Shunting movement to and from the Shunting neck is governed by the Shunt signalsSH7(A-E), SH(16.30.34)B, SH(18.20) A.

*2) Sick Siding:*Shunting movement to and from the Sick Siding is governed by the Shunt signals SH9(A-C), SH(16.30.34)A.

*3) TM Siding:*Shunting movement to and from the TM Siding is governed by the Shunt signals SH5(A/B), SH(26.28)B.

*4) Saloon Siding:*Shunting movement to and from the Saloon Siding is governed by the Shunt signals SH3A, SH5A, SH28A/B.

*5) Shunting Neck (towards MVF end):*Shunting movement to and from the Shunting neck is governed by the Shunt signals SH44(A/B/C), SH(21.23.27)C.

6) Tower Wagon Siding: Shunting movement to and from the Tower Wagon Siding is governed by the Shunt signals SH10, SH11A.

(9) <u>ABNORMAL CONDITION</u>: -

a) <u>RULES TO BE OBSERVED IN THE EVENT OF ABNORMAL CONDITIONS</u>:

i) During partial interruption/failure of electrical communication instruments SR 6.02.06 shall be followed.

ii) The authority to proceed in the occupied block section in case of obstruction of line or accident etc is T/A-602 and SR 6.02.05 shall be followed.

iii) Trains delayed in the block section: GR 6.04 and relevant SRs shall be followed.

iv) Failure/ passing of IBS signed in ON position: Not Applicable.

v) Failure of Axle Counter Block/BPAC: As per Appendix-'B'.

vi) Failure of MTRC: Not applicable.

b) <u>PROCEDURE FOR EMERGENCY OPERATION OF POINTS BY CRANK HANDLE: -</u>

(i) The detailed Procedure for emergency operation of points by Crank Handle of motor operated points is mentioned in Para No.5.3, 5.3.1 and 5.3.2 of Appendix-'B' of this SWR.

On account of the doubtful operation of any track circuit by a light vehicle including self-propelled vehicle such as Motor trolley or light Diesel/electricalengine or tower wagon, indicating the occupancy of the track. It is necessary that SM on duty satisfies himself that the said vehicle has cleared 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.

(ii) PROCEDURE FOR EMERGENCY OPERATION OF POINTS WITH POINT ZONE TRACK CIRCUIT/AXLE COUNTER FAILURE AND EMERGENCY ROUTE RELEASE:

The detailed Procedure for emergency operation of points in case of failure of Point Zone track section is mentioned in Para No.5.2, 5.2.1 and 5.2.2 of Appendix-'B' of this SWR.

Rules regarding locking of points and damaged points vide GR 3.39 and GR 3.77 to be followed.

c) CERTIFICATION OF CLEARANCE OF TRACK BEFORE CALLING-ON SIGNAL OPERATION IS INITIATED: -

Before taking off Calling –on signal during failure of track circuit/axle Counter, the route and the clearance of the track over which train would pass including fouling track if any should be verified by SM on duty.

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

(i) Whenever there is a failure of points, Track circuits/axle counter or any interlocking gear at station, the failure should be reported by SM on duty to the concerned Signaling Maintenance Staff on duty responsible for attending to the failure and only after receipt of the written memo from the Signaling Maintainer for rectification of the fault, SM should restore the normal working.

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

9.1. TOTAL FAILURE OF COMMUNICATION:

a) In the event of total failure of communication on double line, trains shall run on the authority to proceed without line clear in terms of SR 6.02.03 on Double line section and SR 6.02.04 on Single line section.

b) During partial interruption of communication, the rules laid in SR 6.02.06 shall be followed.

9.2. TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

In the event Single line working on double line section when one line is obstructed the trains shall work as per the provision laid down in SR 6.02.01.

9.3. DESPATCH OF TRAINS UNDER AUTHORITY TO PROCEED WITHOUT LINE CLEAR OR TO ASSIST THE CRIPPLED TRAIN:

i). In the event of total failure of communication, trains shall run on the authority to proceed without line clear in terms of SR 6.02.03 on Double Line section and SR 6.02.04 on Single Line Section.

ii). In the event of necessity to send a train to assist the crippled trains, SR 6.02.05 shall be followed.

(10) VISIBILITY TEST OBJECT:

The signals lights of UP Starter Signal No.11 of Line No.1 and DN Starter Signal No.26 of Line No.1 are earmarked to serve as visibility test object during day and night vide GR 3.61 (2) (b) (iii).

(11) ESSENTIAL EQUIPMENT AT THE STATION:

Details are given in Appendix-E.

(12) FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG:

(i) During thick, foggy or tempestuous weather impairing visibility of the Signals the SM on duty shall initiate action to depute Fog signal man with detonators vide GR 3.61 in order to indicate the location of the station approach signals to the Loco pilot of an approaching train.

(ii) The fog signal man shall be proceeding to the 1st stop signal of the station and place one detonator at a distance of 270M from the 1st approaching stop signal towards the approaching train and another detonator at a distance of 10M from the 1st one and he shall stand 45M away from the detonator.

(iii) The fog signal man shall be permanent employee, no temporary or casual labour shall be deployed as fog signal man.

(iv) The assurance of fog signal man available at the station (including engineering branch if available) shall be obtained in the fog signal register every year in the month of "OCTOBER".

(v) Details of supply of detonators available stock, use and testing etc., shall be maintained in the fog signal register of the station as per GR 3.64 and SRs there to.

Note: Names of fog signal man available at the station shall be exhibited in SM's office.

LIST OF APPENDICES:

APPENDIX-A	:	WORKING OF LEVEL CROSSING GATES
APPENDIX-B	:	SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION.
APPENDIX-C	:	ANTI COLLISION DEVICE (RAKSHA KAVACH)
APPENDIX-D	:	DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT.
APPENDIX-E	:	LIST OF ESSENTIAL EQUIPMENT PROVIDED AT THE STATION.
APPENDIX-F	:	RULES FOR WORKING OF DK STATIONS, HALTS, IBH, IBS AND OUTLYING SIDINGS.
APPENDIX-G	:	RULES FOR WORKING OF TRAINS IN ELECTRIFIEDSECTIONS.

APPENDIX 'A'

WORKING OF LEVEL CROSSING GATES AT KORAPUT STATION

1. GENERAL:

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:	KR-1
2.	Engineering or Traffic Gate:	Engineering gate ('C' class)
3.	Under control of Station Master / Permanent Way Inspector:	SSE [P.Way]/KRPU
4.	Location at KM:	2/17-18
5.	At Station:	Koraput
6.	In between stations:	KRPU-DMRT
7.	BG / MG / NG:	BG
8.	Single line / Double line / Multiple line:	Double Line
9.	Normal Position:	Closed to Road Traffic.
10.	Interlocked / Non-Interlocked:	Non-Inter locked.
11.	Means of Interlocking	Non-Inter locked.
12.	Provision of Gate signal at Kms.	Not Applicable.
13.	Signaling arrangements:	Not Applicable.
14.	Means of Communication – Telephone / Bell etc	Telephone connection with SM/KRPU.
15.	Width of level crossing gate:	7.5 M.
16.	Type of road (NH / SH / Others):	Others.
17.	Name of Road:	Odiaguda
18.	Metalled / non-metalled:	CC Block
19.	Approach road:	Metalled.
20.	Width of the road:	5.5 M between Gates
21.	Angle of road crossing (in case of the skew gates):	90^0
22.	Road gradient (if any)	i) North /East side: 1 in 30 ii) South/West side: 1 in 30
23.	Road alignment (straight/curve)	i) North/East side: Curve ii) South/West side: Straight
24.	Provision of height gauges:	Provided
25.	Type of Barriers:	Lifting Barrier.
26.	Length of Check rails:	7.50 M
27.	Road surface in between L-Xing gates:	Level
28.	Length of Rumble strip / speed breakers:	5.0 M
29.	Road signs:	Provided
30.	Speed breaker indication board:	Provided
31.	TVU:	902 of 01/2022.
32.	Census next due on:	2025
33.	Demarcation for placement of Detonators:	Provided
34.	No. of Gatemen working:	2 (Two)
35.	Nearest Railway Medical Assistance	KORAPUT
36.	Nearest Private Medical Assistance available (if any):	KORAPUT
37.	List of equipment available Yes / No:	Yes

1.2. EQUIPMENTS:

S N	Items	Quantity / Numbers
1.	LED based Flashing Tri Colour Hand Signal Lamp.	3Nos
2.	Hand Signal Flag Green	1 No with mounted stick
3.	Hand Signal Flag Red	3 Nos
4.	Banner Flag Red	3 Nos
5.	Posts for exhibiting red banner flag	2 Nos
6.	Spare chains with padlocks	2 with stop marker
7.	Detonators	10 in each case
8.	Gate lamps	2Nos
9.	Tommy Bar	1 No
10.	Mortar Pan	1 No
11.	Spade / Fowrah	1 No
12.	Rammer	1 No [in case of asphalted road this may not be provided.]
13.	Pick Axe	1 No [in case of asphalted rod this may not be provided]
14.	Tin case for flags	1No
15.	Can for oil	1No
16.	Water port / Bucket	1No
17.	Canister for Muster Roll	1No
18.	Set of spare spectacles of gateman wearing glasses	1No
19.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1No
20.	Basket	1No
21.	Whistle	1No
22.	Wall Clock	1No
23.	A Small size chain for use in case of failure of gate boom lock	2No

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.

1. Gate Working Instructions in Hindi/English.
2. Gate Working Instructions in Local vernacular language
3. Gateman Rule Book in Local vernacular language.
4. List for tools and books.
5. Duty registers.
6. Certificate of Competency for working as gateman.
7. Bio-data particulars of Gateman, including date of passing vision test, Initial/refresher course, safety camp etc.
8. Accident Register.
9. Records of last census of road traffic at level crossing gate.
10. Public Complaint Book.
11. Inspection Book.

1.4. MODE OF OPERATION:

Gate shall normally be kept Closed to the road traffic. Whenever it is required to open the gate, on duty Gateman shall take permission from the SM on duty and inform the purpose of opening of LC gate with description of road traffic which intended to clear by opening the LC Gate. Gate keeper shall ensure clearance of road traffic, close and lock the gate. Thereafter shall inform to the Station Master on duty.

1.5. DUTIES OF GATEMEN:

1. **COMPETENCY:** Gateman working at this gate should have competency certificate applicable to perform duty at this gate issued by the sectional JE/SE (P.Way).

2. **ALERTNESS:** The gate man shall be alert and be prepared to take immediate action, should danger be apprehended. Keys of the gate shall be in his personal custody.

3. **POSITION DURING PASSAGE OF TRAINS:**

During passage of trains, gate man will stand in the manner indicated below: -

i) Gate man will stand attentively in front of the gate-lodge facing the approaching train.

ii) In daytime, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.

iii) In night time, gateman shall hold lighted hand signal lamp with white light facing the track.

iv) He shall keep the whistle slung around his neck from a cord.

4. **ROUTINE DUTIES OF GATEMAN**:

i) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously.

ii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrive and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.

iii) He shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.

iv) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

v) Gateman shall also be prepared to repeat any signal which guard may give to Loco pilot on walkie-talkie or in any other way.

vi) If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlock for securing the gate against road traffic. Gate man shall report to the station master, gang mate or permanent way inspector any defect in his gate or apparatus pertaining to it, as soon as possible.

vii) Gateman shall wear badge and prescribed uniform while on duty at level Crossing gate.

viii) Gateman shall ensure that he is having competency certificate in his possession while on duty.

ix) Gateman shall work the gate as per gate working instructions and remain well conversant with this instruction.

x) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.

xi) Gateman shall see that the channel for the flange of the wheel is kept clean.

xii) Gateman shall keep the road surface well-watered and rammed in case of unmetalled roads.

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

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

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

xvi) He should note down the registration number of the vehicle which damage the gate.

xvii) Locking arrangement of gate should be checked daily.

5. <u>ACTION IN CASE OF UNUSUAL OCCURANCE ON TRAIN:</u>

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

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

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

iii) If Loco pilot / guard fails to take notice, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action, under exchange of private number.

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

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

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

6. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

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

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

The gateman shall protect the line as under: -

A. On Double line section:

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

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

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

iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night 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 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 mobilizing any assistance locally available and warn the Loco pilot of the approaching train.

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

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

B. Other action to be taken by Gateman:

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

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

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

7. EXCHANGE OF PRIVATE NUMBER:

i) The normal position of the 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 condition prescribed below.

ii) The station master before permitting each train to enter into the block section shall ask gateman on the telephone by giving private number whether the gate is closed against road traffic for the passage of the train. The gateman only after ensuring that the gate is actually closed and locked against road traffic shall give a private number to the station master in assurance of gate being closed and locked against road traffic.

iii) The station master shall not permit any train to enter into the block section unless he is assured of the closure/locking of the gate by gateman supported by a private number.

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

  i) He has not exchanged any private number with the station as per (b) above or
  ii) If he has exchanged private number with the station master, the whole of the train with the last vehicle indicator has passed over the level crossing gate and the station master has not exchanged private number with him for any other movement with immediately in rear of the train or on adjacent line(s).

v) Before open the gate for road traffic, he shall display a 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.

vi) In case gateman is not responding on telephone or in case the telephone becomes defective or private number is not received from the gateman, the station master shall adhere to the procedure prescribed in SR 16.03.04.

vii)In the event of failure, if the gate is required to be opened for the passage of road traffic approaching from either end. He shall then plant a banner flag during day and hand signal lamp with red light during night, 5meters 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, stopping approaching train, if any.

8. FAILURE OF TELEPHONIC COMMUNICATION:

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

a) Station Master at the dispatching end shall issue a caution order to the Loco pilot before dispatching a train in the block section from his end.

b) The caution order should advise the Loco Pilot to whistle continuously and approach the gate cautiously.

c) The Loco pilot should be instructed to pass the gate cautiously, on being hand signal by the gateman. If hand signal is not seen, 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 the gate is closed the Assistant Loco pilot give the all right signal, if the gate is not closed the Assistant Loco pilot must close the gate and then give the all right signal. The Loco pilot shall stop clear of the level crossing to pick up the Assistant Loco pilot who will reopen the gate for passage of road traffic. In the absence of the Assistant Loco pilot, the Loco pilot may take the assistance of the Assistant Guard / Guard.

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

e) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.

f) Station Master shall also advise the gateman through gang man / patrolman or Loco pilot of the first train that the telephone has become defective.

g) He should also advise S&T staff responsible for maintenance of the telephone to rectify the defective Telephone at the earliest.

h) Normal working will be resumed only after S&T staff rectify the telephone and issue fit memo for the same.

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

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

b) 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.

c) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.

d) After securing the gate against road traffic, he shall show green hand signal flag by day and green light by night to the Loco Pilot of the approaching train.

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

f) 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 to the block section from his end.

g) He should also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the defect at the earliest.

h) Normal working will be resumed only after maintenance staff rectifies the lifting barriers and issue fit memo for the same.

10. <u>OBSTRUCTION AT THE GATE:</u>

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

b) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defect / obstruction at the gate, under exchange of private number.

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

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

e) Gateman shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no.1.5(6).

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

g) He shall note down the particulars of the road vehicle, name of the Driver, owner and relay these details to the Station Master who shall not start the train unless he has been ensured by the gateman that the road vehicle or the lifting barriers are not fouling the track.

h) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.

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

j) Station Master shall then issue a caution order to Loco pilot of the gateman, if the gate is broken, but is clear of any obstruction.

k) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal if the gate is not obstructed.

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

m) Normal working will be resumed only after maintenance staff rectifies the defective lifting barriers and issue fit memo for the same.

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

If there is a rail fracture or obstruction on the track due to falling of tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item no.10 above. If the obstruction fouls the Level Crossing Gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

APPENDIX-'B'

APPENDIX 'B' TO STATION WORKING RULES OF KORAPUT STATION

(Detail description of signalling 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:

KORAPUT is a Class 'B' station provided with Standard-II (R) Electronic Interlocking of M/s. Medha India Servo Pvt. Ltd., make with distributed architecture. The station is provided with Route setting type Electronic Interlockingbetween 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/23236 Alt-'A'with Special Note-S1shall 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 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 by selection through switch provided on the SM's table.

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, sidings as indicated in the WRD, various other ICONS and indications

APPENDIX-'B'

have been provided on the VDU. A brief description of the same are described below.

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1.	PC SM KEY	Green Colour when key is 'IN'	Ensures operation of VDU by authorized person	Protected by pass word
2.	---	Emergency Route release – UP & DN	Flashing indication appears when Emergency route release operation is initiated.	For each operation concerned counter shall register one count higher.
3.	Emergency Point operation key	Green light when key is 'IN'. Yellow light indication appears showing request for Emergency point operation is acknowledged.	Ensures emergency point operation by authorized person	Protected by Pass word. For each operation concerned counter shall register one count higher.
4.	Point failure Ack. button	Red	Flashing indication appears when any point fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement, buzzer stops. After verification at site inform S&T staff immediately if failure persists.
5.	Signal failure Ack. button	Red	Flashing indication appears when any signal fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement, buzzer stops. Inform S&T staff immediately if failure persists.
6.	CH-1, CH-2, CH-3, CH-4, -------, buttons	Yellow lamp indicates 'KEY IN'. Red lamp indicates'CH LOCKED'	In normal condition yellow lamp will be lit. Whenever the crank handle is locked in route or otherwise red indication will glow.	
7.	UP Block Release button	Yellow –Prepared for Block release.	On getting indication SM shall left click on the button icon which shall release Block Handle.	After complete arrival of train this will be activated
8.	DN Block Release	Yellow –Prepared for Block release.	On getting indication SM shall left click on	After complete

APPENDIX-'B'

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
	button		the button icon which shall release Block Handle.	arrival of train this will be activated
9.	Up Arrival Ack. button	Yellow – for muting the Arrival buzzer of TLBI instrument	On getting indication SM shall left click on the button icon which shall mute the Arrival buzzer of TLBI instrument.	After complete arrival of train this will be activated
10.	Line Block button	Red when blocked	SS/SM 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/SM has to select the required menu.	When line block is selected the concerned button on the particular line turns to RED.

4.2. PC SM KEY:

SM key is physically provided on VDU change over panel, outside the VDU on SM's Table. This key when inserted in the lock [provided on VDU change over panel] and turned right the VDU becomes operative. The key when inserted in the lock and either turned to left or extracted out from the lock renders the VDU inoperative except for putting back the signals to 'ON' position in case of emergencies. When SM's key is inserted and turned to right a red indication lit above the SM's Key icon on the VDU.

PC Control:

If any one of VDU has shut down for maintenance or in case of failure, after resumed to normal working or rectification, for getting the operations from the VDU, first enable the PC which is virtual SM's Key. To enable the PC, right click on the PC icon which activates the PC enable option.

Then click on the PC enable option which will enable the password window to appear. After the valid entry of user name and password, the PC will be enabled. The user name is ECOR and the password of this station is KRPU.

APPENDIX-'B'

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

a) Vital Interlocking Computer Status:

In EI, two Vital Interlocking Computer cards are available normally. The status ofeach of the VIC is provided on VDU as following.

VIC – A Indications

VIC-A is Active

VIC-A is Stand By

VIC–A is Not Available

VIC –B Indications

VIC–B is Active

VIC–B is Stand by

VIC–B is Not Available

If there is any change in VIC's status, its current status will be displayed along with OK button and a buzzer is turned on to alert the operator. The Buzzer stops and the indication message disappear when the OK button is pressed by the Operator.

Action by SM: If at least one VIC is available and is in Active State, then EI shall continue to function. On observing this fault, SM shall acknowledge the fault and immediately inform Signal Maintainer for further action.

b) Link Status Indication:

The EI VDU receives the data from EI Equipment through two OFC channels. The Link Status Indication of the same is provided on the VDU.

APPENDIX-'B'

When Channel – A or Channel – B link is healthy, corresponding Yellow indication will be glowing steadily. When Channel – A or Channel – B link is faulty, corresponding red indication will be shown steady.

Channel –A Link Status is Healthy

Channel – A Link Status is Faulty

Channel – B Link Status is Healthy

Channel – B Link Status is Faulty

Buzzer and Acknowledgment:

When Channel A link or Channel B Link fails, a Buzzer is turned on automatically to alert the operator. To acknowledge the fault, right click on this control, a pop- up menu is displayed and then click on the Ack menu option. The Buzzer stops when the fault is acknowledged by the Operator.

When any of the channelslink fail, an indication is shown in red color.

When any of the links is recovered, the indication is shown in yellow color along with one OK button. The indication message disappears if OK button is pressed.

APPENDIX-'B'

Action by SM: If at least one of the Communication Channels is Healthy, EI VDU shall continue to function as usual emanating all indications. On observing any communication channel faulty indication, SM shall acknowledge the fault and immediately inform the Signal Maintainer.

c) EI Equipment Critical Fault:

If EI is shut down due to any critical fault, a message is displayed in red color along with OK button and a buzzer is turned on to alert the operator. The Buzzer stops and the indication message disappear when the Operator presses the OK button.

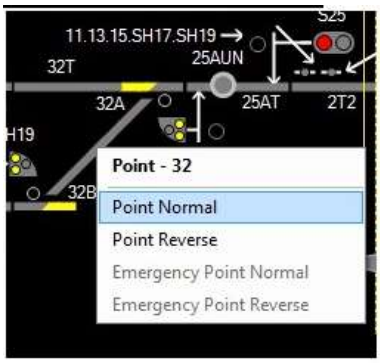
Action by SM: SM shall acknowledge the fault, inform the Signal Maintainer.

4.4. VDU ACTIVE INDICATIONS:

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

4.5. OPERATION AND INDICATION OF POINT:

To Operate the Point the SM needs to track the mouse pointer to concerned Point on the VDU, after clicking by the right button of the mouse a popup menu will appear as shown below.



4.5.1. REVERSE TO NORMAL OPERATION:

To operate the point from reverse to normal after clicking on the concerned point Track the pointer to **POINTNORMAL**in the popup menu and click, a Normal flashing indication

4.5.2. NORMAL TO REVERSE OPERATION:

To operate the point from normal to reverse after clicking on the concerned point Track the pointer to **POINT REVERSE** menu and click, a Reverse flashing indication will appear, the indication will be steady after the point is set to Reverse.

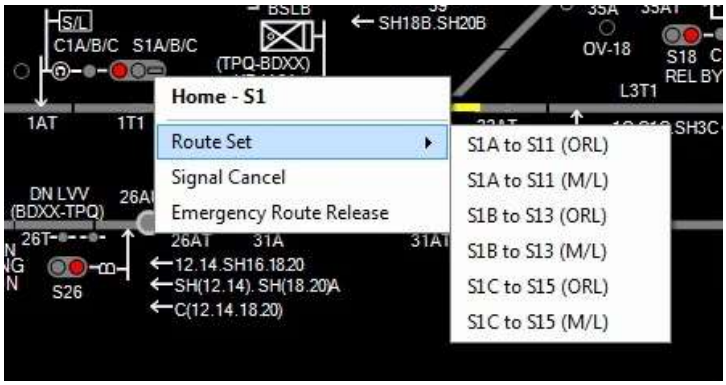
4.5.3. POINT INDICATIONS:

When the point is free a steady yellow strip of light will appear either in the normal portion of point zone (In case of cross over at both ends) or in the reverse portion of point zone depending up on the position of point, indicating

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

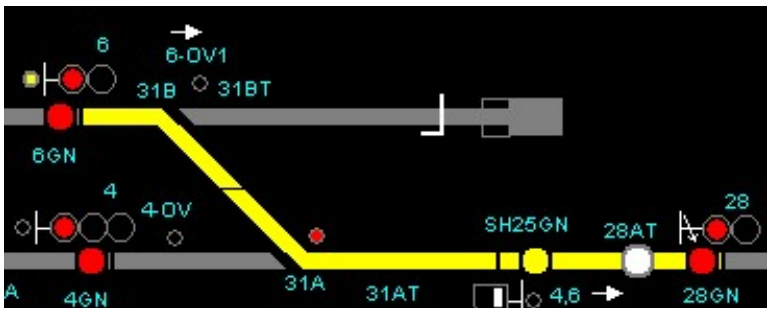
4.6. SIGNAL OPERATION:

To Take-Off a Signal with the desired route the SM needs to track the mouse pointer over the concerned Signal on the VDU, after clicking right mouse button a pop-up menu will appear as shown below for route set, signal cancellation and route release operations.



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.



APPENDIX-'B'

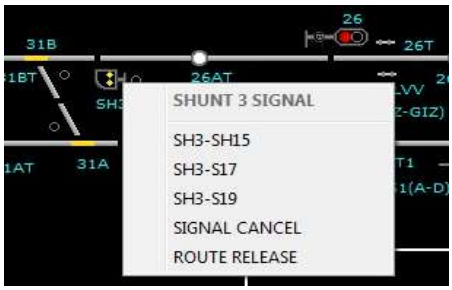
Conditions for setting a route:

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

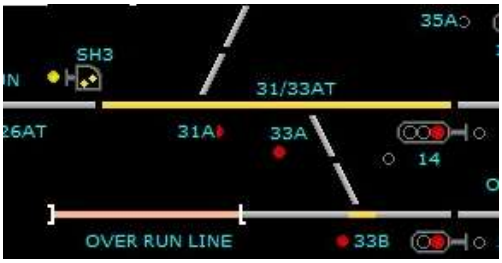
1. All the Crank handles of the required route related points to be in Key-IN condition.
2. All the related Siding control keys to be in Key-In condition.
3. If any Level Crossing gates are falling under the route that should be closed and locked (KEY IN).

4.6.2. SHUNT SIGNAL OPERATION:

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



Track the mouse on the 'Route set' sub menu which displays all the possible routes of the Shunt Signal and track the mouse on the desired route and click the left mouse button. After doing so, desired route will be initiated and the Shunt Signal will be taken off.

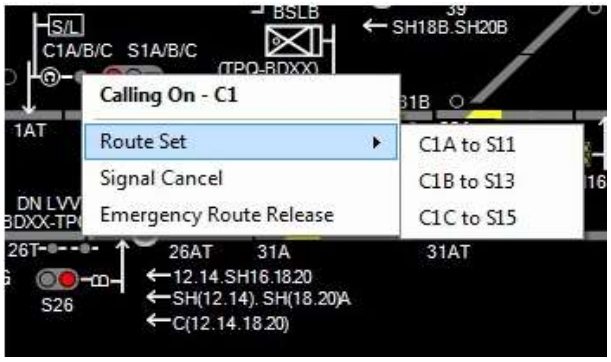


4.6.3. CALLING ON SIGNAL OPERATION:

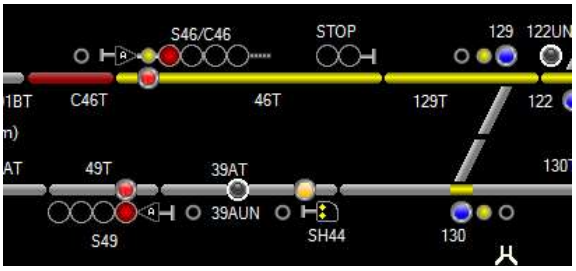
Calling-on signal route set operation is similar to the same procedure as mentioned for the main signal. For calling-on Signal, route is set after a train occupies the approach track circuit in immediate rear of the stop signal. The calling on Signal is cleared after a lapse of 60 Seconds in case Home signal and immediately in case of Starter signal provided other conditions are fulfilled.

To take "OFF" Calling-on signal the train must come to a stop at the foot of the concerned 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. Right click on the calling-on Signal which will appear a pop-up menu as follows.

APPENDIX-'B'



Then the SM must drag the pointer and click over the 'Route set' sub menu which displays all possible routes and track the mouse on required route and click the left mouse button as a result of which the calling-on signal will blink for 60 secondsfor all home signals the time delay is 60 seconds, the Calling-on signal clears i.e. a yellow light glows at the concerned calling-on signal on the VDU.



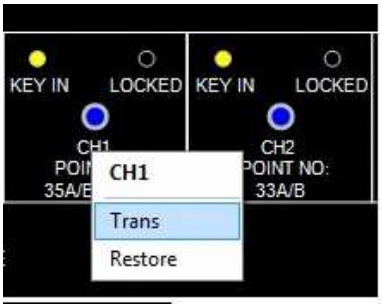
This action will be recorded in a respectivecounter of the counter box provided on SM's table. Every such operation shall be recorded by the SS/SM on duty along with the reasons to do so. The calling-on signal route can be released after complete arrival of the train by Signal cancellation only.

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, right 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.

APPENDIX-'B'



For Transmitting the Crank Handle KEY to the field personnel, SM has to transmit the control by clicking **TRANS** 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 right click on the Crank Handle and select the **RESTORE**in the menu appeared.

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

4.8. OVERLAP TIME RELEASE:

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

5. EMERGENCY OPERATIONS:

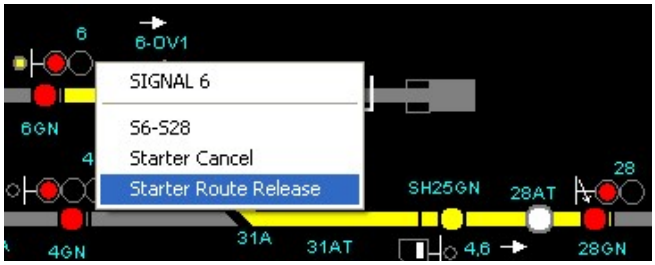
To carry out different emergency operations the following procedures are to be followed.

5.1. CANCELLING A ROUTE/ EMERGENCY ROUTE RELEASE:

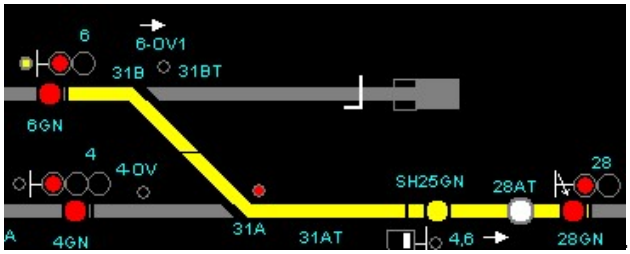
To cancel a signal route when the route is set and the signal in taken-off, click on the signal cancellation option on the menu (Main/Calling on) of the concerned signal, the signal will immediately go to ON aspect.

The precondition for route release is, the route should have been set and the signal has been put back to danger. If you wish to cancel the route, select the desired signal and click the right mouse button on it. The system would display a popup menu with a list of commands near the control symbol. Select the "**Route Release**" from the menu list.

APPENDIX-'B'



Since all the Signals at this station are having Dead Approach, A flashing indication on the route lock indication near the control symbol and in the emergency route release indication block UP/DN SIDE indication will appear as shown in the figure below indicating that the route release is in progress. After 120sec the flashing indication stops, UP/DN SIDE indication will disappear and then whole route would be released.



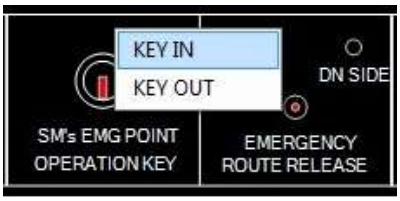
Counter provided on Counter Box for the route release will change to next higher digit. This number should be recorded by the SM on duty who shall record the details of the Route cancellation along with the latest counter number in a register.

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 enable the Emergency Point Operation Key. To 'KEY IN' the Emergency Point Operation the on-duty SM, by right click on Emergency point operation Key Icon, a pop up menu will appears as follows.



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

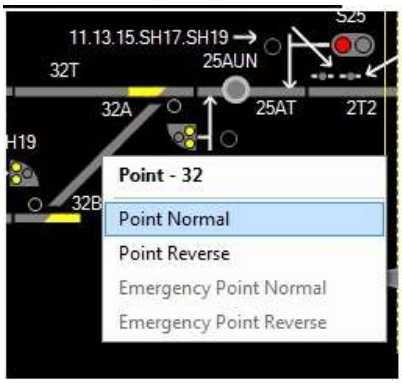
APPENDIX-'B'

Enter the assigned username and password and click **"Ok".** The system would validate the user inputs and show the **"KEYIN"** indication, if the validation is successful.

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

5.2.1. EMERGENCY NORMAL OPERATION:

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



Then track the pointer on the '**EMERGENCY POINT NORMAL'** and click left mouse button, after doing so point gets operated and Normal flashing indication will appear, the indication will be steady after the point is set to Normal.

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

5.2.2. EMERGENCY REVERSE OPERATION:

Track the pointer to the corresponding Point which is intended to operate and then right click the mouse button. After doing so, a pop-up menu will appear as shown above. Then track the pointer on the '**EMERGENCY POINT REVERSE'** and click left mouse button, after doing so point gets operated and Reverse flashing indication will appear, the indication will be steady after the point is set to Reverse.

APPENDIX-'B'

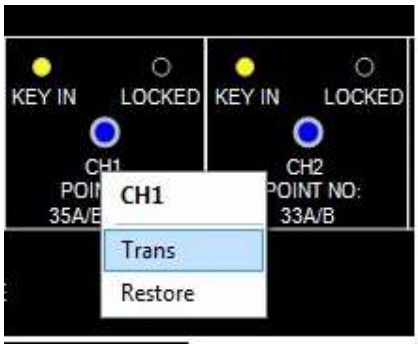
After the Emergency point operation, a specific counter will change to its next higher digit and this number should be recorded in the register provided for this purpose by the SM/ASM on duty who shall record the details of the Emergency Point Operation along with the latest counter number in a register.

After the completion of the Emergency point operation, the Key to be switched over to 'KEY OUT'. Same procedure as mentioned for KEY IN shall be followed for KEY OUT also. To make Emergency Point KEY **OUT**, click on the "**Emergency Point Operation KEY**" symbol; the system would display a pop menu as shown in figure in the Para No.5.2 above. Click on the KEY OUT in the menu appeared and shall provide User name and password. The username of this station is 'ECOR' and password of this Station is 'KRPU'.

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 KEY-IN position.*

5.3. EMERGENCY CRANK HANDLE RELEASE OPERATION:

When a crank handle is locked due to earlier set route 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 track the pointer on the crank handle control button icon provided like the following on the VDU and click the right mouse button. 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 track the pointer on **'TRANS'** menu and click the left mouse button. 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/SM on duty shall Release the control for the Steady indication by clicking **'RESTORE'** menu.

This action will be recorded in a respective counter of the counter box provided on SM's table. The counter will increment the number for each and every such action and also, this number should be recorded by the SM on duty who shall record the details of the Emergency Crank Handle Operation along with the latest counter number in a register.

5.3.1. EMERGENCY CRANK HANDLE RELEASE DURING FAILURE OF BOTH THE VDUs (ACTIVE & 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 Switch to middle position

APPENDIX-'B'

(i.e No VDU) 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 after 120 seconds all the crank handles are released at a time. This will be indicated by the indicator provided on the SM Key box. The SM on duty can set the required point/points through crank handles manually by extracting the key/keys from EKTs provided in the location boxes.

CRANK HANDLE CONTROLS FOR EMERGENCY OPERATION OF POINTS			
S No	CRANK HANDLE	CONTROL POINTS	PROVIDED IN
1.	CH1	51A/B, 53A/B	UP CH LOC-1, SXV End
2.	CH2	55A/B	UP CH LOC-1, SXV End
3.	CH3	57A/B	UP CH LOC-4, SXV End
4.	CH4	59. 61A/B	UP CH LOC-4, SXV End
5.	CH5	65. 67A/B. 79	UP CH LOC-2, SXV End& UP CH LOC-3, SXV End
6.	CH6	52A/B, 54A/B	DN CH LOC-2, MVF End
7.	CH7	56A/B	DN CH LOC-3, MVF End
8.	CH8	60A/B. 76A/B	DN CH LOC-2, MVF End
9.	CH9	63. 71A/B. 73. 75. 77. 81	UP CH LOC-2, SXV End& UP CH LOC-3, SXV End
10.	CH10	82A/B	UP CH LOC-6, SXV End
11.	CH11	70. 72. 74. 80A/B. 86. 88	DN CH LOC-7, MVF End& DN CH LOC-5, MVF End
12.	CH12	62. 66	DN CH LOC-5, MVF End
13.	CH13	68	DN CH LOC-5, MVF End
14.	CH14	64A/B. 78A/B	DN CH LOC-4, MVF End
15.	CH15	84	UP CH LOC-6, SXV End
16.	CH16	83A/B	UP CH LOC-5, SXV End
17.	CH17	85	UP CH LOC-5, SXV End
18.	CH18	87A/B	DN CH LOC-6, DMRT End
19.	CH19	89A/B	DN CH LOC-6, DMRT End
20.	CH20	92A/B	DN CH LOC-1, MVF End
21.	CH21	90A/B	DN CH LOC-1, MVF End
22.	CH22	58	DN CH LOC-3, MVF End
23.	CH23	69	UP CH LOC-3, SXV End

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

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

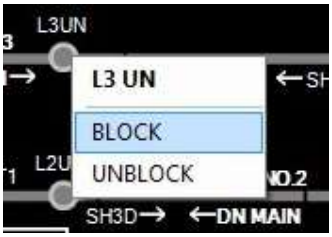
5.4. BLOCK AND UNBLOCK (REMINDER COLLAR) OPERATION:

Block option is used to block the particular line on which SM on-duty is intended not to receive any train for certain period of time for some reason or the other.

5.4.1. BLOCK OPERATION:

To block/unblock a particular line, right clicking on the route button on concerned line displays 'BLOCK' and 'UNBLOCK' options on the menu as shown below.

APPENDIX-'B'



Then select the Line block option. After selecting the Line block option the particular line will be blocked for berthing portion on that particular line. The Line block 'RED' colour indication will be displayed after the successful application of such a blocking process on the VDU, during which no signal will be taken off for that line.

5.4.2. UNBLOCK OPERATION:

To unblock a line, place the mouse pointer over the blocked route button and press the right mouse button. A popup menu with block and unblock options will be displayed near that route button as shown above. Select the "UNBLOCK" menu item from the list and press the left mouse button. After selecting the line unblock option, that particular line will be available for the train movement leading to the all-possible track circuit section.

6. DIGITAL AXLE COUNTER:

Digital Axle Counters are provided as a Last Vehicle Checking Device (LVCD) for Both UP and DN block sections between KRPU-MVF& KRPU-DMRT and for block section KRPU-SXV.

For high reliability, High Availability Digital Axle Counters (HASSDAC) with dual detections are installed in KRPU-MVF& KRPU-DMRT section to ensure the working of at least on system at a time. Single Section Digital Axle Counter (SSDAC) is provided in KRPU-SXV section.

High Availability Single Section Digital Axle Counter (HASSDAC) consists of two Single Section Digital Axle Counters (SSDACs) are connected in parallel so that even anyone of the SSDAC fails which will not affect the system. These two Axle counters are named as SSDAC-1 and SSDAC-2. The status of each SSDAC is provided on the Reset box which is provided on the SM table.

S.No	Indication	Automatic action taken by Equipment	Action by SM
1.	Only SSDAC-1 fails after arrival of the train	System resets automatically	NIL
2.	Only SSDAC-2 fails after arrival of the train	System resets automatically	NIL
3.	Both SSDAC-1 & 2 Fails after arrival of the train (or)for any reason	No automatic action	SM to reset the system as procedure laid down in the Para No.6.1as the case may be and make an entry in the axle counter register.
4.	Both SSDAC-1 & 2 Fails even after reset by SMs of both the end	No automatic action	Enter in Signal Failure Register issue failure memo to signal technician. Procedure to be adopted is same as

APPENDIX-'B'

			laid down.
5.	Either SSDAC-1 or SSDAC-2 fails continuously for long time	--------	Report to signal staff without entering in signal failure

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

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

In case of failure of both the Digital Axle Counters, the SM on duty should resort to resetting of the same along with the SM on duty of adjacent station after confirming that the whole of the train sent by sending station has been arrived at the receiving station. The resetting of the LVCD shall be initiated as mentioned below at both the stations after exchanging the Private Number vide G&SR 4.17, 4.17.01.

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

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

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

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

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

a) On being advised by SM of KORAPUT Station, SM of SXV/MVF/DMRT should perform the following step by step procedure from (b) to (i) for resetting the Digital Axle Counter (HASSDAC).

APPENDIX-'B'

b) SM of KRPU Station and SXV/MVF/DMRT Station shall then Insert SM's reset key and turn right.

c) Press simultaneously both the Push button and the Reset Key which are provided on the Reset Box for at least 5 seconds continuously at KRPU and SXV/MVF/DMRT station.

d) Release SM's Reset Key and Push button.

e) Turn the SM's Reset Key to left and remove it.

f) The system goes to preparatory reset state and preparatory reset miniature indication (Green) glows on the Reset box. The counter reading incremented after a gap of 5 seconds approximately.

g) The counter reading should be recorded in the concerned register by SM on duty.

h) One train is to be piloted out in the section to make the system normal.

i) The SM on duty shall record it in the Train Signal Register indicating the resetting operations in detail i.e. train number, time, Private Number exchanged with SM of sending station and giving reasons for the resetting operation.

j) If the axle counter works properly, then Block Section cleared indication 'Green' will appear on the Reset box and the concerned Block working will be normalized after arrival of train which is piloted out.

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

6.2. RESETTING OPERATION FOR 1AXT or 2AXT (DIGITAL AXLE COUNTER):

Digital Axle Counter 1AXT is provided in between DKKT2 & DKKT3 due to presence of Steel Girder Bridge No.557 (RUB) at Km No.190/22-23 and Digital Axle Counter 2AXT is provided in between DKRT2 & DKRT3 due to presence of Steel Girder Bridge No.1 (RUB) at Ch: 871.44m F/CSB to prove clearance/Occupancy of the track. The occupation of the axle counter section is indicated on the VDU by Red.

Due to any failure of Axle counter or after passage of a train, the Axle Counter Zone (1AXT or 2AXT as the case may be) shows occupation indication (Red) continuously on VDU, SM on duty shall initiate resetting procedure.

Before initiating resetting, on duty SM at KRPU station shall send a competent Railway Servant deputed by SM, who in turn, verify that the Concern Axle counter zone is clear of all obstruction then open the respective Line verification box and press the verification button provided in the line verification box.

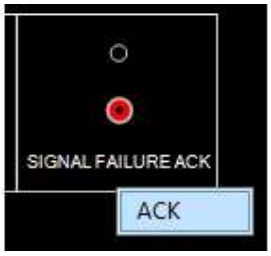
On obtaining verification indication which is indicated by glow of light on the Reset box which is provided at SM's office, SM shall insert the key in the Reset Box, turns right and presses both the key and the Push button (Red) simultaneously and the same will be rest by this operation and concerned counter in Reset box will change to the next higher number.

Number thus changed due to resetting shall be recorded in the TSR and in the reset register provided for this purpose.

APPENDIX-'B'

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 any 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 'ACK' button. However, the RED flashing light will continue to glow until the defective LED is replaced by a new LED. For rectification of failure SM on duty should inform the concerned S&T staff.



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

Whenever there is a failure of a point due to non-setting, flashing of concerned point indication and flashing of point failure indication (red) appears along with point failure Buzzer. The buzzer stops when acknowledge the respective 'ACK' button, but the flashing of concerned point indication and point failure indication shall continue to glow until the Point failure is rectified and disappear when point failure is rectified.

9. COUNTERS:

The following counters are provided for recording the actions such as emergency point operation, emergency route release etc. as shown in figure below would be displayed in rectangular boxes on the track layout window.

1. Emergency Route Release Counter.
2. Emergency Point Operation Counter.
3. 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, 1AXT & 2AXT and on TLBI for S1 and S2 operations. 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.

10. TRACK CIRCUITS:

Both UP & DN main lines, UP Loop & Common loop lines and all the point zones are track circuited as 51AT, 51BT, 53AT, 53BT, 55AT, 55/79T, 57AT, 57/59Y, 61T, 63/81T, 65T, 67T, 71/73T, 77/75T, 83/85T, 83BT, 20T, L1T1, L1T2, L1T3,

APPENDIX-'B'

L2T1, L2T2, L2T3, L3T1, L3T2, L3T3, L3T4, L4T1, L4T2, L4T3, L5T1, L5T2, L5T3, L6T1, L6T2, L6T3, 17T, 19T, 82AT, 82/84T, 80/86T, 70/88T, 72/74T, 62/66T, 64BT, 64/68/76T, 76BT, 56AT, 56BT, 54BT, 54AT, 60/78BT, 78AT, 60AT, 52BT, 52AT, UKKT1, UKKT2, UKKT3, UKKT4, DKKT1, DKKT2, DKKT3, DKKT4, 90AT, 90BT, 92AT, 92BT, BT1, BT2, BT3, UKRT1, UKRT2, UKRT3, UKRT4, DKRT1, DKRT2, DKRT3, DKRT4, 89BT, 89AT, 87BT and 87AT.

Approach track circuits 1AT, 2AT, 6AT, 12AT & 14AT of 5 Rail length for Calling on Signal are provided in rear of the Up Home Signal (SXV end), UP Intermediate Home (KR), DN Intermediate Home (KK), UP Home (KR) and DN Home signal (KK) respectively. In addition, there are short length track circuits 12T1 &12T2 in advance of DN Home Signal (KK) and 14T1 & 14T2 in advance of UP Home Signal (KR) are also provided. Similarly, there are 5 Rail length track circuits 49T beyond UP Advanced Starter Signal (KK) for replacement of Last Stop Signal, 47T beyond DN Advanced Starter Signal (KR) for replacement of Last Stop signal and 1T is provided between UP Home Signal and DN Advanced Starter Signals towards SXV end. From the last trailing point/fouling mark in either side of yard to Advanced Starter Signals are also track Circuited i.e 32AT, 47AT and 49AT in DN and UP directions respectively.

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 overs by positively checking the entrance and exit track circuits are showing occupancy and clearance in accordance with the train movement.

11. 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.*

12. 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.

13. 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].

APPENDIX-'B'

If after the operation from the VDU, the approach stop signal fails to take 'off' the SM shall personally ensure from the indications displayed in the VDU that the route is clear, the points indications (including isolation point), crank handle 'IN' indication for the entire route and overlap portion (if any) are lit and remains steady and thereby fulfilling all the requirements of taking off signal. SM's key provided in panel/VDU is to be taken out and after that only reception of trains on defective signal may be arranged without clamping and padlocking of points of concerned route. The loco pilot shall be issued form T/369(3b) or T/369(1) in accordance with GR.3.69. No route cancellation operations of the concerned route are to be initiated till the total completion of the train movement.

Where the point, lock and route indications are fails to appear in the VDU,the SM on duty shall ensure the clearance of the nominated route, proper setting of all points through crank handle operation and get all the points whether facing or trailing clamped and padlocked with the help of TPM.

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.

14. PILOTING OF TRAINS - OUT OF STATION YARD:

When the starter signal has become defective, the Station Master on duty shall follow the procedure laid down in the SR.3.70.03. 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].

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].

15. SHUNTING:

Shunt back signal SH3(A-I) is provided towards SXV end of the yard. Shunt Signals SH5(A/B), SH7(A-E), SH9(A-C) and SH28(A/B) are provided on TM Siding, Shunting Neck, Sick Siding and Saloon Siding towards SXV end respectively. Dependent Shunt Signals SH26(A/B), SH24(A/B), SH22, SH20(A/B), SH18(A/B) and SH16((A/B/C) are provided towards SXV end on Line No.1, 2, 3, 4, 5 and 6 respectively. Dependent Shunt Signal SH30(A/B/C) and Shunt Signal SH35 are

provided on both sides of ARME Siding. Dependent Shunt Signal SH34(A/B/C) is provided for shunting towards SXV end on extended portion of Line No.8 i.e Crane siding. Shunt Signal SH37(A/B) is provided for shunting from extended portion of Line No.8 i.e Crane siding towards SXV end to Common path & Crane siding. Shunt Signals SH42 & SH29 are provided on both sides of Line No.8 i.e Crane Siding. Shunt Signals SH40(A/B) & SH25(A/B) are provided on both sides Common Path. Shunt Signal SH38(A/B) is provided for shunting from extended portion of Line No.8 i.e Crane siding towards MVF end to Common path & Crane siding. Dependent Shunt Signal SH27(A/B/C)is provided for shunting towards MVF end on extended portion of Line No.8 i.e Crane siding. Dependent Shunt Signals SH23(A/B/C) and Shunt Signal SH36 are provided on both sides of ART Siding. Dependent Shunt Signals SH11(A/B), SH13, SH15(A/B), SH17(A/B), SH19(A/B) and SH21(A/B/C) are provided towards MVF end on Line No.1, 2, 3, 4, 5 and 6 respectively. Shunt Signals SH10 and SH44(A/B/C) are provided on Tower Wagon Siding and Shunting Neck towards MVF end respectively. Shunt Back Signals SH4(A-F) and SH8(A-H) are provided on KR & KK lines respectively. Dependent Shunt Signals SH2(A/B) and SH6(A/B) are provided below intermediate Home Signals towards DMRT & MVF end respectively. For taking OFF Shunt signals please refer Para No. 4.6.2 of APPENDIX-B.

16. <u>VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAIN INTO STATION YARD</u>:

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 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.

17. <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.

18. <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, 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.

19. <u>RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:</u>

APPENDIX-'B'

After receipt of the failure information, the sectional Maintainer shall attend to the failure after giving a 'Disconnection Memo'. After rectification of the fault, the Sectional Maintainer shall give 'Reconnection Memo' detailing the rectification. Thereafter the Station Master on duty shall personally check this defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective apparatus in terms of SR.3.68.04 (C) and (D).

20. PROCEDURE FOR CARRY OUT PLANNED MAINTENANCE WORK:

Whenever any normal maintenance or special works for major renewals etc., are involved, the Signal and Telecom department should pre-plan these works. Field staff and the Inspector of the section should give to the Station master in writing 'Advance Intimation' about this work in terms of G and SR.15.08.01.

21. EMERGENCIES:

Notwithstanding, anything contained in the aforesaid paras when equipment is found defective and unsafe for passage of trains, the Signal and Telecom staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of the defect or damage to the interlocking installation to the Station master and take the Station Master's acknowledgement. After this, the usual practice of exchange of disconnection memo and reconnection memo can follow. The Station Master must act promptly on such messages and take adequate precaution treating the S&T installation as defective and pass trains over the affected interlocking equipment's according to extant instructions as contained in GR and SR.3.77.

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

1. Whenever a Signal or a Point becomes defective any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at the Station.

2. In case of failure of Signal or a Point and in case the Point cannot be operated from the VDU, the Crank Handle which is interlocked with the system has to be extracted and the following procedure has to be observed.

3. One common emergency Crank Handle key is provided for certain group of Motor operated Points. This is mechanically riveted to the Key of RKT. This Key along with Crank Handle can be released from the RKT by pressing the RKT Push Button provided near the RKT. In case of failure of Point Motor, the SM on duty will take out the Crank Handle, set the Point manually by inserting Crank Handle in the Motor.

4. When the Crank Handle key is removed from RKT for operation of the defective Motor Operated Points, the responsibility for its safe custody rests with the SS/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

APPENDIX-'B'

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:

23. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

23.1. INTERLOCKING WITH HOME SIGNALS:

TheDNHome Signal (KK) and UP Home Signal (KR) is Electrically interlocked with the respective DLBI so that the handle of the DLBI Instrument cannot be turned from TRAIN ON LINE position to LINE CLOSED position of DOWN direction unless the respective Home Signals is put back to NORMAL position and the respective Block Section monitored by Axle Counter is clear of trains.

TheUP Home Signal (KK) towards SXV end is Electrically interlocked with the respective TLBI so that the handle of the TLBI Instrument cannot be turned from TRAIN COMING FROMposition to LINE CLOSED position of UP direction unless the respective Home Signals is put back to NORMAL position and the respective Block Section monitored by Axle Counter is clear of trains.

23.2. INTERLOCKING WITH ADVANCED STARTER SIGNALS:

The UP Advanced Starter Signals No.49T is electrically interlocked with respective DLBI of section KRPU-MVF and DN Advanced Starter Signal No.47T is electrically interlocked with respective DLBI of section KRPU-DMRT so that this

APPENDIX-'B'

Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in' LINE CLEAR' position.

The DN advanced starter signal No.32 is interlocked with TLBI of section KRPU-SXV so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in 'TRAIN GOING TO' position.

23.3. SUSPENSION OF LAST STOP SIGNALS:

When the Double line block instrument for section KRPU-MVF or KRPU-DMRT 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. [Refer SR 3.70.02 & 3.70.03]

When the Token less block instrument for section KRPU-SXVis suspended with its handle in any position for whatever reason the concerned Last Stop Signals controlled by the TLBI must be treated as suspended and trains shall be Piloted Out.[Refer SR 3.70.02 & 3.70.03]

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

1. High availability Digital Axle Counters (HASSDAC) are provided on Up and Down Block Sections between KRPU-MVF& KRPU-DMRT andSingle Section Digital Axle Counter (SSDAC) is provided for block section between KRPU-SXV.

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].

25. POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS:

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

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

b) Stand by supply: Odisha State Electricity Board Supply.

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

APPENDIX-'B'

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

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

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

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

iii). In case of failure of one of the AT supply without any power block the on-duty SM has to check whether the circuit breaker has tripped [Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is down and when tripped it goes UP].

In case of failure of both AT supplies without any power block the local supply shall be utilized by operating the changeover switch. If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any means and a message shall be given to concerned SSE [Elect.] and SSE/PSI [OHE] for prompt rectification.

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

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

v). For IPS system which provides supply to EI, a manual changeover switch is provided at SM's Office with the power supply viz., selected supply from CLS panel.

vi). Normally manual changeover switch is kept in selected supply from CLS panel position, if in case any emergency, changeover switch is changed to middle position by on duty SM to cut off the power supply to IPS.

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

26. <u>WORKING OF INTEGRATED POWER SUPPLY [IPS, INDICATIONS & ACTION TO BE TAKEN BY SM ON DUTY:</u>

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

APPENDIX-'B'

The IPS system is connected with battery as a backup power source for safe working during transition of power and in case no 230 AC supply is available due to any reason.

In the event of failures of all the sources of 230V 50HZ AC supply, the signalling system shall be fed by backup battery bank connected to IPS for a limited power of 8 to 10 hours. The health of the battery bank is monitored through one IPS Monitoring Panel provided in the SM's room which shall display the voltage of 110V DC battery bank provided as backup source of power supply. Depending up on the health of the battery bank and the system the following indications/alarm will appear on the remote monitoring panel. The indications/alarm, their implications and action to be taken by SM on duty is tabulated below:

SN	Instruction	Health of Battery Bank/ Equipment.	Visual Indication	Audio Indication	Action to be taken by SM on duty
A	-	50% DOD	Red	Alarm	Alarm shall be acknowledged by SM on duty.
B	-	60% DOD	Red	Alarm	-do-
C	System shutdown	70% DOD	Red	Alarm	Signal feed cut off and all DC-DC converters to Work. Audio alarm will continue till power Supply is restored.
D	Call S&T staff.	Equipment fault.	Red	Alarm	Failure of any module will give the alarm in ASM's panel. Alarm shall be acknowledged by SM on duty for audio cut off.

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

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

27. WORKING OF AUTOMATIC FIRE ALARM DETECTION SYSTEM:

- In case of any alarm in any particular area due to fire or dust-Zone number on the LCD display can be seen.
- Note down the zone No. and panel display name, by referring display chart.

APPENDIX-'B'

- Once you find the zone number rush to that particular area where the detector gives alarm.
- The moment the smoke detector detects any smoke particles, the RED LED will blink along with the alarm.
- Once you reach the area where the detector is giving the alarm, check whether the alarm is due to the fire or for any other reason.
- To alert the people in case of emergency press "*" sign of the fire which is present inside the key pad together for few seconds. This will enable you to hear the panel alarm.
- To reset the panel press "OFF" button and enter the code 1111 (1 digit four times).
- The control panel will get reset and siren muted.
- If the power fails on this will enable us to see the red indicator on the panel.
- In case of failure in power and if the battery is fully charged, the panel can function effectively as long as the charge in the battery is present.

AUTO DIALLING:

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

APPENDIX-'C'

APPENDIX 'C' TO STATION WORKING RULES OF KORAPUTSTATION

ANTI COLLISION DEVICE [[RAKSHA KAVACH]:

-NIL-

APPENDIX-'D'

APPENDIX 'D' TO STATION WORKING RULES OF KORAPUT STATION

The following staffs are concerned with the movement of the trains whose duties are given below:

COMPLEMENT OF STAFF	STAFF IN EACH SHIFT
STATION SUPERINTENDENT (In Charge)	01
SS/SM	01
TRAFFIC POINT MAN	01

1. STATION MASTER (IN CHARGE):

i) He is responsible for trains passing during his shift.

ii) He is responsible for the general and satisfactory working of the station and for the efficient discharge of duties by staff working under him.

iii) He shall keep all Rule books, Registers, Files and documents neat and up to date.

iv) He shall ensure that all equipment, apparatus, and instruments including signaling and interlocking gears and fittings are kept clean and oiled by S&T officials.

v) His special attention is drawn to Chapter-II of G&SR and GR 5.01 to 5.08 with relevant SRs and O.M. Chapter-2.

vi) He shall follow the instructions laid down in SR.3.68.01 (c) and (d) and SR 14.07.01 and B.W.M.2.09 (e).

vii)He shall promptly attend to accidents and report them.

viii) He shall supervise the work of safe working staff and conduct night inspections and report lapses of staff working under him.

ix) He shall ensure that fire fighting equipment at station such as fire extinguisher, fire buckets etc., are in good fettle and ready for use.

x) He must ensure that the essential safety equipment at his station is the same complete at in good condition. If there is any deficiency, it should be made good without delay.

xi) He shall see that TSR, SM's Dairy, Inspection Book, Reference Book and other Station needs is properly maintained and preserved for a minimum period as described in operating manual.

xii)He shall ensure that all correction slips of manuals & SWR and changes are made in respective page.

2. STATION MASTER:

a) He is responsible for trains passing during his shift.

b) He shall promptly bring to the notice of SM in-charge all irregularities and accidents in course of his shift duties.

APPENDIX-'D'

c) During the absence of SM I/C, the duties of the Station Master will devolve on him.

d) He shall follow SR 3.68.01(c) and (d) SR 14.07.l and OM Chapter-2.

e) His special attention is drawn to Chapter-2 of G&SR 1976 and GR 5.01 to 5.08 with relevant SRs.

f) As an assistant to SM I/C, he shall carry out the instructions given from time to time.

g) He shall not consider himself relieved of duty unless he has completed transactions of trains for which he has given/obtained line clear till complete arrival of such trains.

h) He shall be responsible for correct issuance of caution order whenever required.

i) He shall always obey the Lawful orders of his superiors so long as they don't contravene any of the extant rule.

j) He shall keep the Station Master control keys of Block Instruments/Control panel in his personal custody whenever he required to leave his office even for a short duration.

3. <u>TRAFFIC POINTSMAN:</u>

i) He shall work under the orders SM on duty.

ii) He shall couple and uncouple vehicles under the supervision of SM.

iii) He shall watch and guard the packages and other Railway property lying in the Station premises.

iv) He shall report any irregularities coming to his notice.

v) He shall do loading and unloading of parcels, smalls and Guard's boxes. He shall do piloting IN and OUT.

vi) He shall deliver any official message to the proper person/office. He shall carry out any other duties entrusted to him by the SM on duty.

vii)He shall be in proper neat and clean uniform while on duty.

viii) He shall not leave his duty unless properly relieved or authorized by his superiors.

ix) He shall follow OM Chapter-2.

APPENDIX-'E'

APPENDIX 'E' TO STATION WORKING RULES OF KORAPUT STATION:

ESSENTIAL EQUIPMENT:

A list of essential equipment's is given below which shall be maintained in good Working order.

Sl. No	Description	Quantity
(i)	Detonators	20
(ii)	LED based Tri Colour flashing torch.	3(1 Spare)
(iii)	Hand Signal Flags	3(1 Spare)
(iv)	Safety chains with Pad locks	15
(v)	Clamps with Padlocks	20
(vi)	Skids	20
(vii)	Wedges	4
(viii)	Fire & Sand buckets	6
(ix)	DCPT Fire Extinguishers	2
(x)	Motor trolley on line board	2
(xi)	Block suspension board	2
(xii)	Power block boards for block instruments	4
(xiii)	Stretcher	1
(xiv)	Blanket	1

APPENDIX-'F'

APPENDIX 'F' TO STATION WORKING RULES OF KORAPUT

--NIL--

APPENDIX- 'G'

KORAPUT STATION

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS:

DETAILS OF WORKING RULES OF 25KV AC TRACTION.