



EAST COAST RAILWAY

WALT AIR DIVISION

**STATION WORKING RULES
OF**

RAYAGADA STATION

EAST COAST RAILYWAY

WALT AIR DIVISION

INDEX OF CORRECTION SLIPS

[illegible]

INDEX

<u>S No</u>	<u>DESCRIPTION</u>	<u>PAGE No</u>
1.	Station Working Rules -----	1-22
2.	Appendix-A -----	23-41
3.	Appendix-B -----	42-75
4.	Appendix-C -----	76
5.	Appendix-D -----	77-78
6.	Appendix-E -----	79
7.	Appendix-F -----	80-88
8.	Appendix-G -----	89

EAST COAST RAILWAY**WALTAIR DIVISION****STATION WORKING RULES OF RAYAGADA [RGDA][BROAD GAUGE]**

No.WTP/5/SWR/RGDA

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/23174 ALT-'B'
- b) CSTE/E.Co.Rly/DRG No:-SI-23174 ALT-'B'
- c) Date up to which corrected:

(2) DESCRIPTION OF STATION:**2.1. GENERAL LOCATION:**

a)	Name of the station	RAYAGADA (RGDA)
b)	Class of station	'B' class
c)	Section	Vizianagaram-Tie Line 'B' Cabin
d)	Double Line/Single Line / Multiple Line	Double line.
e)	Electrified/Non Electrified	Electrified
f)	Gauge BG/MG/NG	BG
g)	Railway	East Coast Railway
h)	Route	'D' Special
i)	Situated at	Km 342.266
j)	Reckoned from	Raipur
k)	Operation	Centrally operated with Visual Display Unit (VDU).
l)	Type of Interlocking	Standard III

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

S.No	Adjacent Block Station	Distance	Direction
1.	SINGAPUR ROAD	12.025km	Raipur end
2.	LADDA	12.123km	VZM end
3.	Provision of IBS	IBH signal is provided between SPRD & RGDA stations on both UP & DN lines at Km: 338.184 & Km: 337.531 respectively. (Details of working of IBS are given in appendix -'F')	
4.	Automatic signal	Nil	
5.	DK station/Outlying sidings	Nil	
6.	Passenger halt	Nil	


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

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
RGDA-LDX DN Direction	The advance block section commences at DN advanced starter signal No.12 of LDX on DN line.	Ends at Facing point No.32A on Down line of RGDA.
RGDA-LDX UP Direction	The rear block section commences at Up advanced starter signal No.29 of RGDA on Up line.	Ends at Facing point No. 21A on Up line of LDX station.
RGDA-SPRD UP Direction	a) From UP Advance starter No.13 of SPRD. b) From UP IB Home signal No.17 of SPRD.	a) To a point 400M beyond UP IB Home signal No.17 of SPRD at km 338.184. b) To the first facing point No.31A of RGDA.
RGDA-SPRD DN Direction	a) From DN Advance starter No.28 of RGDA. b) From DN IB Home signal no. 74 of RGDA.	a) To a point 400M beyond DN IB Home signal No.74 of RGDA at km 337.531. b) To the first facing point No.24A of SPRD.

2.4. GRADIENTS:

Station towards		Chainage		Inter distance	Gradient
		From	To		
RGDA - SPRD	UP	0.000 F/CSB	1297.00M	1297.00M	1 in 1200 Raising
		1297.00M	1591.00M	294.00M	1 in 1500 Falling
		1591.00M	1791.00M	200.00M	1 in 1000 Falling
		1791.00M	2091.00M	300.00M	LEVEL
		2091.00M	2391.00M	300.00M	1 in 1000 Raising
		2391.00M	3106.00M	715.00M	LEVEL
		3106.00M	4329.00M	1223.00M	1 in 200 Raising
		4329.00M	Into section	---	1 in 300 Raising
	DN	Chainage		Inter distance	Gradient
		From	To		
		0.000 F/CSB	1297.00M	1297.00M	1 in 1200 Raising
		1297.00M	1591.00M	294.00M	1 in 1500 Falling
		1591.00M	1791.00M	200.00M	1 in 1000 Falling
		1791.00M	2091.00M	300.00M	LEVEL
		2091.00M	2391.00M	300.00M	1 in 1000 Raising
		2391.00M	3029.00M	738.00M	LEVEL
		3029.00M	3425.00M	396.00M	1 in 175 Raising
		3425.00M	Into section	---	1 in 200 Raising
IB ZONE	DN	Chainage		Inter Distance	Gradient
		From KM	To KM		

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

		From section	339.243	---	1 in 1000 Falling
		339.243	338.841	402M	LEVEL
		338.841	338.041	800M	1 in 175 Falling.
		338.041	337.691	350M	1 in 200 Falling
		337.691	337.451	240M	1 in 400 Falling
		337.451	336.241	1210M	LEVEL
		336.241	Into section	---	1 in 150 Falling
	UP	Chainage		Inter Distance	Gradient
		From KM	To KM		
		From section	336.429	---	1 in 200 Falling
		336.429	337.250	821M	1 in 125 Raising.
		337.250	337.937	687M	1 in 300 Falling
		337.937	339.160	1223M	1 in 200 Falling
		339.160	Into section	---	LEVEL
RGDA-LDX	UP	Chainage		Inter Distance	Gradient
		From	To		
		0.000 F/CSB	680.00M	680.00M	1 in 540 Falling
		680.00M	808.80M	128.80M	1 in 100Falling
		808.80M	950.00M	141.20M	1 in 112Falling
		950.00M	1650.00M	700.00M	1 in 150Falling
		1650.00M	1925.00M	275.00M	LEVEL
		1925.00M	2704.00M	779.00M	1 in 150Raising
		2704.00M	In to section	--	1 in 100Falling
	DN	Chainage		Inter Distance	Gradient
		From	To		
		0.000 F/CSB	704.00M	704.00M	1 in 540 Falling
		704.00M	854.00M	150.00M	1 in 142Falling
		854.00M	1681.041M	827.041M	1 in 150 (C)Falling
		1681.041M	1863.81M	182.769M	LEVEL
		1863.81M	2700.00M	836.19M	1 in 320Falling
		2700.00M	In to section	--	1 in 130Falling

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 (620.75M x 8.0M)
2.	Line No.2 (UP Main)	Electrified	High Level (396.96M x 9.34M)
3.	Line No.3 (DN Main)	Electrified	
4.	Line No.4 (Goods Loop)	Electrified	--
5.	Line No.5 (Goods Loop)	Electrified	--
6.	Line No.6 (Goods Loop)	Electrified	--
7.	Line No.7 (Goods Loop)	Electrified	--

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

B) SIDINGS:

S.No	Name of the Siding	Electrified/ Non Electrified	Platforms with Length	Isolation from Running line	Description of Siding
1.	ART/ARME Siding	Electrified	--	Isolated from Line No.7 by DS with Motor operated on both ends	ARME/ART siding takes off from line no-7. (Details given in the Para No.18 (a) of Appendix-B of this SWR).
2.	Wheel Siding	Electrified	--	--	The wheel siding takes off from ARME/ART siding at SPRD end terminates into dead end. (Details given in the Para No.18 (c) of Appendix-B of this SWR).
3.	Diesel Engine Siding (Oil Siding)	Partially Electrified	--	--	The diesel engine siding takes off from ARME/ART siding and is extended to join the loco line at LDX end of the yard. (Details given in the Para No.18 (d) of Appendix-B of this SWR).
4.	Loco Line	Partially Electrified	--	--	Loco line takes off from shunting neck towards LDX end and extends in the form of a triangle and merges into Goods reception and dispatch line. (Details given in the Para No.18 (f) of Appendix-B of this SWR).
5.	Concrete sleeper	Partially Electrified	--	The Concrete Sleeper	The concrete factory siding


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

	Factory Siding			factory siding with two Spun takes, if from Loco Line and is isolated by HP. One line is terminates at dead end and another line is isolated by HP at both ends.	with one loop takes off from loco line and terminates into dead end towards LDX end of the yard. (Details given in the Para No.18 (e) of Appendix-B of this SWR).
6.	Quarry siding	Electrified	--	--	Quarry siding takes off from loco line and terminates into a dead end at LDX end of the yard. (Details given in the Para No.18 (g) of Appendix-B of this SWR).
7.	Goods Reception & Dispatch Line	Electrified	720M x 15M	--	Goods Reception & Dispatch Line takes off from beyond the Line No.7 towards SPRD end and terminates into Loco Line at LDX end of the yard.
8.	Saloon Siding	Electrified	--	Isolated from Line No.1 by HPL at RGDA end and DS No.51B with Motor operated towards SPRD end.	Saloon siding takes off from Line No.1 towards SPRD end and terminated towards Station end. (Details given in the Para No.18 (b) of Appendix-B of this SWR).
9.	Shunting Neck (towards SPRD end)	Electrified	--	Isolated from Line No.5 by DS No.33 with Motor operated towards SPRD end.	Shunting Neck takes off from Line No.5 towards SPRD end and terminated at dead end.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

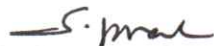
10.	Shunting Neck (towards SPRD end)	Electrified	--	Isolated from Line No.7 by DS No.55 with Motor operated towards SPRD end.	Shunting Neck takes off from Line No.7 towards SPRD end and terminated at dead end.
11.	Shunting Neck (towards LDX end)	Electrified	--	Isolated from Line No.4 by DS No.38 with Motor operated towards LDX end.	Shunting Neck takes off from Line No.4 towards LDX end and terminated at dead end.
12.	Tower wagon Siding	Non-Electrified	--	Isolated from Line No.4 by Point No.54 with Motor operated towards LDX end.	Tower Wagon Siding takes off from Line No.4 towards LDX end and terminated at dead end. (Details given in the Para No.18 (h) of Appendix-B of this SWR).

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)	900M (From STR to STR), 913M (From STR to GJ)	a) Trains coming from LDX and proceeding towards SPRD are DN trains. b) Trains coming from SPRD and proceeding towards LDX are UP trains.
2.	Line No.2 (UP Main)	1053M (STR TO SB)	
3.	Line No.3 (DN Main)	1060M (STR TO SH)	
4.	Line No.4 (Goods Loop)	803.76M(STR TO STR), 816.76M (STR-GJ)	
5.	Line No.5 (Goods Loop)	750.54M (STR TO STR), 803.54M (STR-GJ)	
6.	Line No.6 (Goods Loop)	805M (STR TO STR), 818 (STR-GJ)	
7.	Line No.7 (Goods Loop)	787M (STR TO STR), 800M (STR-GJ)	
8.	Goods Reception & Dispatch Line	690M (STR TO STR)	

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.	Saloon siding	CAL 167M	Electrified
2.	ARME/ART Siding	CAL 344M(STR-FM)	Electrified
3.	Wheel siding	CAL 114M	Electrified
4.	Diesel Engine Siding (Oil siding)	CAL 305M	--


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

5.	Shunting (LDX end)	Neck	CSL 362M (SH TO SB)	Electrified
6.	Shunting (SPRD end)	Neck	CSL 770M (SH TO SB)	Electrified
7.	Shunting (SPRD end)	Neck	CSL 104M (SH TO SB)	Electrified
8.	Quarry siding		----	--
9.	Tower Siding	Wagon	CSL 217M (SH TO SB)	Electrified

2.5.3.ANY SPECIAL FEATURES IN THE LAYOUT:

- a) 10 Kmph speed boards are provided below UP home signal No.1 for reception on Line No.6, DN Intermediate Home signal No.8 for reception on Line No.7 and Starter signal No:11, 12, 14, 16, 18, 20 & 23 as indicated for negotiation 1in 8(1/2) turn out in terms of GR/SR 4.10.02 & 15.09.02(B).

2.6. LEVEL CROSSINGS:

SNo	LC Gate No & KM	Class of Gate	Communication with Station	Type of Interlocking	Section
1.	RV-250, Km.341.14	'B' Class	RGDA	Interlocked	RGDA-SPRD
2.	RV-249, Km.338.255	'C' Class	RGDA	Non-Interlocked	RGDA-SPRD

(3) SYSTEM AND MEANS OF WORKING:-

<i>System of Working in force</i>	Absolute Block System of Working.
<i>Double Line/Single Line</i>	Double Line.
<i>Block Instruments</i>	a) RGDA-LDX Section: SGE type Double line Lock and Block Instrument. b) RGDA-SPRD section: SGE type Double line Lock and Block Instrument.
<i>Co-operative/Non Co-operative</i>	a) RGDA-LDX Section: Non-Co-operative. b) RGDA-SPRD Section: Non-Co-operative.
<i>Block Telephones</i>	Attached with Block Instruments.
<i>Staff responsible for custody of key and operations.</i>	SM on duty
<i>Telephone provided at IBS</i>	Telephone communication is provided between SM/RGDA and DN IBS at Km.337.531

(4) SYSTEM OF SIGNALLING AND INTERLOCKING:

1.	<i>Standard of Interlocking</i>	Standard-III.
2.	<i>Type of signaling</i>	MACLS
3.	<i>Mode of operating the signals</i>	Electronic Interlocking (Visual Display Unit)
4.	<i>Provision of Calling-On signals</i>	Calling-on signals are provided below Home signals, Intermediate Home Signals and Starter Signals of Goods Loop Lines from Line No.4 to 7(i.e. in both UP & Down directions) as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b).

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

5.	<i>Provision of shunt signals</i>	Shunt back signals SH3(A/B/C/D/E) and SH4(A/B/C/D) are provided towards SPRD end of the yard and towards LDX end of the yard respectively. Shunt Signal SH5 and SH7(A/B/C/D) are provided on Shunting necks towards SPRD end. Shunt Signal SH6 and SH30 are provided on Shunting Neck and Tower Wagon Siding towards LDX end respectively. Shunt Signals SH72 is provided on Line No.2 towards SPRD end and Dependent Shunt Signals SH8(A-F) & SH9(A-E) are provided below Intermediate Home Signals towards LDX and SPRD end respectively. Dependent Shunt Signals SH71, SH17A/B, SH19A/B, SH21A/B and SH23A/B are provided on Line No.3 to 7 towards LDX end respectively. Dependent Shunt Signals SH20A/B, SH18A/B, SH16A/B and SH14A/B are provided on Line No.4 to 7 towards SPRD respectively. Dependent Shunt Signal SH10 and SH11 are provided on ARME/ART Siding towards SPRD end and LDX end respectively. Dependent Shunt Signal SH25(A/B/C) is provided towards LDX end for shunting from Diesel Engine Siding and loco Line. Dependent Shunt Signal SH12(A/B) is provided on Goods reception and Dispatch line towards SPRD end.
6.	<i>Emergency Cross over</i>	Point No.32, 34, 31, 37.
7.	<i>Track circuits</i>	The provision of track circuits is mentioned in Appendix-B Para No.12 of this SWR.
8.	<i>Axle counters</i>	Provided Single Section Digital Axle counter (SSDAC) for last vehicle verification between RGDA-LDX as "UDAXT" on Up Line and "DRAXT" on DN Line. For Section RGDA-SPRD provided SSDAC as "URAXT" for Up Line and "DDAXT" for DN Line. Similarly, Analog axle counter provided on Goods reception and dispatch line towards SPRD end as GSAXT. Digital Axle Counter is provided for detecting IB portion as 28AXT from DN Advanced Starter No.28 to 400M beyond DN IB Home Signal.
9.	<i>Crank Handles</i>	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.

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

		CH1 : 31A/B, 37A/B CH2 : 36A/B, 39A/B, 51A/B CH3 : 33, 35A/B, 41A/B, 55 CH4 : 47, 49A/B CH5 : 32A/B, 34A/B CH6 : 38, 40A/B, 42A/B, 54A/B CH7 : 44A/B, 48A/B, 50 CH8 : 61A/B, 63, 65 CH9 : 43, 45A/B CH10 : 46A/B, 56
10.	<i>Emergency Point operation</i>	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.	<i>Showing of Veeder Counter</i>	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.	<i>Emergency Route Release operation</i>	All the signals in this station are provided with '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), Emergency route release operation procedure as mentioned in Para No.5.1 of Appendix-'B' in this SWR shall be followed.
13.	<i>Emergency Crank Handle Release operation.</i>	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 of Appendix-'B' shall be followed. Each operation of emergency crank handle operation shall be recorded in the station diary and in the register meant for this purpose.
14.	<i>Emergency Gate Release operation.</i>	Emergency Gate release operation facility is provided to operate the Gate in case of Route locked condition. For Emergency Gate release operation the procedure laid down in Para No.5.4 of Appendix-'B' shall be followed. Each operation of emergency Gate release operation shall be recorded in the station diary 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:


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

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.27 & 28 of APPENDIX-B.

(5) TELECOMMUNICATIONS:

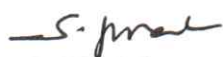
- a) The station is connected to VZM-Tie Line 'B' Cabin control Circuit.
- b) The station is connected to VZM-Tie Line 'B' Cabin traction power control circuit.
- c) Railway Auto Telephone provided at the station is connected to Divisional Exchange at WAT through Exchange at RGDA.
- d) Telephones attached to Double line lock and block Instruments are connected to adjacent stations on either side.
- e) Hot Line Telephone communication is provided between RGDA-SPRD and RGDA-LDX stations.
- f) Telephone communication is provided between Station Master on duty to UP CH locations and to DN CH Locations.
- g) Telephone communication is provided between Station Master on duty and LC Gate No. RV-249 at Km No.338.255 and RV-250 at Km 341.14.
- h) Telephone communication is provided between Station Master on duty and Goods Siding Location.
- i) Telephone communication is provided between Station Master on duty and DN IBS Post at Km 337.531.
- j) 25w VHF set is provided at the station for emergency communication.
- k) The Station is provided with BSNL/CUG telephone.

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 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:


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

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 Manager	1 (General Shift)
Station Master	1
Traffic Points Man	1
Traffic Gate Man	1

The above staff shall work as per roster issued from time to time by Divisional Railway Manager (P) and these rosters shall be conspicuously displayed 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 first facing point 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 RGDA-SPRD&RGDA-LDX and MACLS signaling vide GR 8.03.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

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.13	The end of overrun line OR UP Advanced Starter Signal No.29	DN Starter Signal No.24	Up to the end of DS No.39B OR DN Advanced Starter Signal No.28
Line No.2 (UP Main)	UP Main Starter Signal No.15	UP Advanced Starter Signal No.29	----	----
Line No.3 (DN Main)	----	----	DN Main Starter Signal No.22.	The DN Advanced Starter Signal No.28
Line No.4 (Goods Loop)	UP loop Starter Signal No.17	Up to the end of DS No.56 OR UP Advanced Starter Signal No.29	DN loop Starter Signal No.20	Up to the end of DS No.45B OR DN Advanced Starter Signal No.28
Line No.5 (Goods Loop)	UP loop Starter Signal No.19	Up to the end of DS No.46B OR UP Advanced Starter Signal No.29	DN loop Starter Signal No.18	Up to the end of DS No.43 OR DN Advanced Starter Signal No.28
Line No.6 (Goods Loop)	UP loop Starter Signal No.21	Up to the end of overrun line OR UP Advanced Starter Signal No.29	DN loop Starter Signal No.16	Up to the end of DS No.55 OR DN Advanced Starter Signal No.28
Line No.7 (Goods Loop)	UP loop Starter Signal No.23	Up to the end of end of overrun line OR UP Advanced Starter Signal No.29	DN loop Starter Signal No.14	Up to the end of DS No.55 OR DN Advanced Starter Signal No.28

6.2.1.ANY SPECIAL CONDITIONS TO BE OBSERVED WHILE RECEIVING ORDESPACKING A TRAIN:-

--NIL--

6.2.1.1. SETTING OF POINTS AGAINST BLOCKED LINE:

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


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

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)].

Safety Point Alarm Unit (SPAU):

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

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

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:

1. For movement with point No.44A/B reverse and for operation of 44A/B, 48T track must be clear as a safety measure due to the point No.48 is in the fouling of Point No.44.


(S PRADHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

2. Shunting in face of approaching train is prohibited on both ends due to falling gradient from block section to station section.
3. Engine to be attached towards falling gradient i.e towards station section at LDX end.

b) SPECIAL INSTRUCTIONS:

1. 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 Advanced Starter Signal No.29 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 last stop signal No.29 towards LDX end and held up on the steep gradient in order to clear the reception line for giving permission to approach to the following train. No shunting beyond outermost points on the steep gradient side should be allowed unless a locomotive is attached at the lower end of the load from the point of view of gradient.
2. DN Home Signal No.2'A' is Route released by Intermediate Home signal No.8A/B/C/D and Calling Signal No.C2'A' Route is released by any route setting of Signal No.8A/B/C/D or C8A/B/C/D. Similarly, UP Home Signal No.1C Route is released by Intermediate Home Signal No.9A/B/C/D/E and Calling on Signal No.C1C route is released by any route setting of Signal No.9A/B/C/D/E or C9A/B/C/D/E.
3. Calling on Signal C8A/B/C/D can be taken off only after 2Minutes time delay on occupation of track circuit 40BT or 2AT and Signal No.9A/B/C/D/E or Calling on Signal No.C9A/B/C/D/E can be taken off after 1Minute time delay on occupation of Track Circuit 35BT or 1AT.
4. SM must ensure that UP trains are stopped at the UP-Home Signal No.1 before taking of the UP-Home Signal for reception of trains on Goods R&D Line on occupation of 1AT Track circuit.
5. As per GR 3.40, in the absence of adequate distance towards LDX end from the foot of the stop signal No.27, UP Routing Home Signal No.9 meant for Goods Reception and Dispatch Line can be taken off after 2 Minutes time delay on occupation of Track Circuit 1AT.
6. Zero-time delay is provided for Calling on Signals below starter Signals.
7. GR 8.06(3) shall be followed.

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 OF SIGNALS TO "ON":


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

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/DESPATCH, CROSSING AND PRECEDANCE OF TRAINS:

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

1.	Reception of an UP train on Line No.1 setting overlaps to Overrun Line (Common Loop).	AND	Reception of DN train on Line No.3 or 4 or 5 or 6 or 7. OR Dispatch of another UP train either from Line No.2 or 4 or 5 or 6 or 7.
2.	Reception of an UP train on Line No.4 setting overlap up to DS No.56 (Goods Loop).	AND	Reception of DN train on Line No.1 or 6 or 7. OR Dispatch of another UP train either from Line No.1 or 2 or 6 or 7.
3.	Reception of an UP train on Line No.5 setting overlap up to Point No.56 (Goods Loop).	AND	Reception of DN train on Line No.1 or 6 or 7. OR Dispatch of another UP train either from Line No.1 or 2 or 6 or 7.
4.	Reception of an UP train on Line No.6 setting overlap up to Overrun Line (Goods Loop).	AND	Reception of DN train on Line No.1 or 3 or 4 or 5. OR Dispatch of another UP train either from Line No.1 or 2 or 4 or 5.
5.	Reception of an UP train on Line No.7 setting overlap up to Overrun Line (Goods Loop).	AND	Reception of DN train on Line No.1 or 3 or 4 or 5. OR Dispatch of another UP train either from Line No.1 or 2 or 4 or 5.
6.	Reception of a DN train on Line No.1 setting overlaps up to DS No.39B (Common Loop).	AND	Reception of an UP train on Line No.2 or 4&5 set to DS No.56 and 6&7 set to ORL. OR Dispatch of another DN train either from Line No.3 or 4 or 5 or 6 or 7.
7.	Reception of a DN train on Line No.4 setting overlaps up to DS No.45B (Goods Loop).	AND	Reception of an UP train on Line No.1 or 2 or 5 or 6 or 7. OR Dispatch of another DN train either from Line No.1 or 3 or 5 or 6 or 7.
8.	Reception of a DN train on Line No.5 setting overlaps up to DS No.43 (Goods Loop).	AND	Reception of an UP train on Line No.1 or 2 or 6 or 7. OR Dispatch of another DN train either from Line No.1 or 3 or 6 or 7.
9.	Reception of a DN train on Line No.6 setting overlaps up to DS No.55 (Goods Loop).	AND	Reception of an UP train on Line No.1 or 2 or 4&5 set to DS No.56. OR


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

			Dispatch of another DN train either from Line No.1 or 3 or 4 or 5.
10.	Reception of a DN train on Line No.7 setting overlaps up to DS No.55 (Goods Loop).	AND	Reception of an UP train on Line No.1 or 2 or 4 or 5. OR Dispatch of another DN train either from Line No.1 or 3 or 4 or 5.

6.5. COMPLETE ARRIVAL OF TRAINS:

The entire block section between RGDA-SPRD&RGDA-LDX on both UP and DN lines are provided with Single Section Digital Axle Counter.

For Section RGDA-SPRD:

A Pair of Single Section Digital axle counter is provided between RGDA-IBS one at just beyond DN advanced starter signal no.28 of RGDA and another one 400M beyond the DN IB Signal No.74. Another Pair of Single Section Digital Axle Counter is provided between IBS-SPRD one at just beyond DN IB Signal No.74 and another on 1T2 track circuit of SPRD for last vehicle verification.

A Pair of Single Section Digital Axle Counter is provided between SPRD-IBS one at just beyond UP Advanced starter Signal No.25 of SPRD and another one 400M beyond the UP IB Signal No.17. Another Pair of Single Section Digital Axle Counter is provided between IBS-RGDA one just beyond the UP IB Signal No.17 and another on 1T2 track circuit of RGDA for last vehicle verification.

For Section RGDA-LDX:

A Pair of Single section Digital axle counter is provided between RGDA-LDX one at just beyond UP advanced starter signal no.29 of RGDA and another on 1T2 track circuit of LDX and another pair of Single Section Digital Axle Counter is provided between LDX-RGDA one at just beyond DN Advanced Starter signal No.12 of LDX and another on 1T2Track circuit of RGDA for 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 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


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

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:

<i>Track Circuits</i>	In case of failure of track circuits, the clearance of the concerned line should be ensured physically by the SM on duty before a train is piloted.
<i>Axle Counters</i>	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.
<i>Block Instruments</i>	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).
<i>Reception of a train on obstructed line</i>	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.
<i>Reception of a train on non-signalled line</i>	Before receiving a train on Non-Signalled line, the SM shall ensure that-


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

	<ol style="list-style-type: none"> 1. The train is brought to a stand at the first stop signal. 2. The line on which it is intended to receive the train is clear up to the trailing points or up to the place at which the train is required to come to a stand. 3. All the points over which the train has to pass are correctly set, the facing and trailing points are clamped and padlocked and 4. The Loco Pilot is authorized to pass the approach stop signals at ON through a written authority [Refer GR 5.10].
<i>Defective Signals</i>	<p>Whenever signals become defective, the procedure laid down in GR 3.68 to 3.71, 3.80 and SR 3.68.01 (c) shall be followed.</p> <p>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 3.57, 3.69, 3.49 (4), 3.68 to 3.77).</p>
<i>Defective Interlocking</i>	<p>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].</p>
<i>Defective/Damaged Points</i>	<p>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.</p>

6.9. PROVISIONS FOR WORKING OF TROLRIES/ MOTOR TROLRIES/ MATERIAL LORRIES 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.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

(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.5.5.1 & 5.5.2 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 OM 7.01, 7.07, 7.08, 5.15 (1) (B) and 5.1 (2) (B) 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/Starter 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:

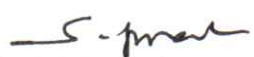
- i) Hand shunting is prohibited at both ends of the yard vide GR 5.20.
- ii) Fly shunting is prohibited at both ends of the yard vide SR 5.21.01 (c).
- iii) Engine to be attached towards falling gradient i.e towards station section at LDX end.
- iv) While shunting movement towards Up Advanced Starter Signal No.29, an engine to be attached towards the falling side of the gradient vide GR 5.20. SM on duty to ensure it.

8.4. SHUNTING ON SINGLE LINE:

Not Applicable

8.5. SHUNTING ON DOUBLE LINE:

a)	<i>Block back</i>	The procedure of Block Back given in BWM 5.15 (1) (b) shall be followed
b)	<i>Block Forward</i>	GR 8.05 and SRs there to shall be followed.
c)	<i>Up to IBS</i>	GR 8.06(3) shall be followed
d)	<i>Beyond the IBS</i>	NIL
e)	<i>During failure of Block Instrument</i>	Shunting in the block section in advance/in rear shall not be preformed 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.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

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

- i) While performing shunting in the siding it should be authorized by issuing T/806 clearly mentioning the limits up to which shunting is permitted as also the lines occupied in shunting. The relevant provisions of GR 5.14 and SR thereto shall be meticulously followed.
- ii) As soon as the Key is extracted from RKT for shunting operation in the siding taking off from Line No.1 and 8, the reception and dispatch signals from and to Line No.1 and 8 are locked respectively.

(9) ABNORMAL CONDITION:-

a) RULES TO BE OBSERVED IN THE EVENT OF ABNORMAL CONDITIONS:

- 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: As per Para No.4 of Appendix-'F'.
- v) Failure of Axle Counter Block/BPAC: As per Appendix-'B'.
- vi) Failure of MTRC: Not applicable.

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

- (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/electrical engine 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:-


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

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 to 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.
- 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.
- 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 DN Starter Signal No.24 and UP Starter Signal No.13 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 proceed 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.


(S PRABHU)
DSTE/WAT

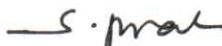

(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

- (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 ELECTRIFIED SECTIONS.

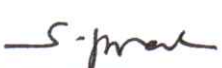

(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX 'A'**WORKING OF LEVEL CROSSING GATES AT RAYAGADASTATION****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 :	RV-249
2.	Engineering or Traffic Gate :	Engineering gate ('C' class)
3.	Under control of Station Master / Permanent Way Inspector:	SSE [P.Way]/RGDA
4.	Location at KM:	338/7-9 (338.255)
5.	At Station:	RAYAGADA
6.	In between stations:	RGDA-SPRD
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/RGDA.
15.	Width of level crossing gate:	5.5 M.
16.	Type of road (NH / SH / Others) :	Others.
17.	Name of Road :	Village Road
18.	Metalled / non-metalled :	CC Block
19.	Approach road :	Metalled.
20.	Width of the road :	5.5 M
21.	Angle of road crossing (in case of the skew gates):	7 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:	5.5 M
29.	Road signs:	Provided
30.	Speed breaker indication board:	Provided
31.	TVU:	19838 of 10/2018.
32.	Census next due on :	10/2021.
33.	Demarcation for placement of Detonators:	Provided
34.	No. of Gatemen working:	2 (Two)
35.	Nearest Railway Medical Assistance	RGDA


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

36.	Nearest Private Medical Assistance available (if any):	RAYAGADA
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.


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

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 inform the SM on duty about the description of road traffic intended to clear by opening the LC Gate and 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.

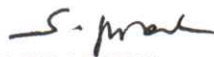
3. POSITION DURING PASSAGE OF TRAINS:

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.


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

- 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. ACTION IN CASE OF UNUSUAL OCCURANCE ON TRAIN:

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

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


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

- 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.


(S PRABHU)
DETE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

- 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.

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. ENGINEERING ITEMS:

Please see para 916, 918, 919 of IRPWM for visibility requirements at level crossings, provision of speed breakers on the approaching roads of level crossings and census of traffic at level crossings.

8. EXCHANGE OF PRIVATE NUMBER:

- a) 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.
- b) 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.
- c) 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.


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

- d) 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).
- e) 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.
- f) 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.
- g) 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.

9. 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.


(S PRADHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

- 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.

10. FAILURE OF LIFTING BARRIERS:

- 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.

11. OBSTRUCTION AT THE GATE:

- 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.


(S PRADHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT

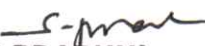

(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

- 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.

12. OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING:

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.11 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.


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

2. GENERAL:**2.1. DESCRIPTION OF THE LEVEL CROSSING GATE:**

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

1.	Number of Level Crossing Gate :	RV-250
2.	Engineering or Traffic Gate :	Traffic gate ('B' class)
3.	Under control of Station Master / Permanent Way Inspector:	SMR/RGDA
4.	Location at KM:	341/13-15 (UP) & 341/14-16 (DN)
5.	At Station:	RGDA
6.	In between stations:	RGDA-SPRD
7.	BG / MG / NG :	BG
8.	Single line / Double line / Multiple line:	Double Line
9.	Normal Position:	Open to Road Traffic.
10.	Interlocked / Non-Interlocked:	Inter locked.
11.	Means of Interlocking	Mechanical Interlocking
12.	Provision of Gate signal at Kms.	Station Signals
13.	Signaling arrangements:	MACLS
14.	Means of Communication – Telephone / Bell etc	Telephone connection with SM/RGDA.
15.	Width of level crossing gate:	5.5 M.
16.	Type of road (NH / SH / Others) :	Others.
17.	Name of Road :	Panchayat Road
18.	Metalled / non-metalled :	Metalled.
19.	Approach road :	Metalled.
20.	Width of the road :	5.5 M
21.	Angle of road crossing (in case of the skew gates):	Straight
22.	Road gradient (if any)	(i) North /East side: Level. (ii)South/West side: Level.
23.	Road alignment (straight/curve)	i) North/East side: Straight ii)South/West side:Straight
24.	Provision of height gauges:	Provided
25.	Type of Barriers:	Lifting Barrier/Sliding Boom Barriers.
26.	Length of Check rails :	7.50 M
27.	Road surface in between L-Xing gates:	Provided with CC Blocks.
28.	Length of Rumble strip / speed breakers:	5.0 M
29.	Road signs:	Provided
30.	Speed breaker indication board:	Provided
31.	TVU:	257415 of 10/2018.
32.	Census next due on :	10/2021.
33.	Demarcation for placement of Detonators:	Provided
34.	No. of Gatemen working:	2 (Two)
35.	Nearest Railway Medical Assistance	RGDA
36.	Nearest Private Medical Assistance available (if any):	RAYAGADA
37.	List of equipment available Yes / No:	Yes


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

2.2. EQUIPMENTS:

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

2.3. RECORDS TO BE KEPT AT GATE LODGE:

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

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.


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

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.

2.4. 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 Traffic Inspector.
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:

- a) Gateman shall ensure that red banner flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.
- b) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- c) Gateman shall perform his duties strictly according to the duty roaster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- d) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- e) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, and vehicle/wagon/train/battery box on fire, shifted load, falling material like brake blocks, brake beams, safety


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

bracket, vacuum cylinder or any other situation endangering safe running of trains.

- f) Gateman shall also be prepared to repeat any signal which guard may give to Loco pilot on Walkie-talkie or in other way.
- g) If lifting barrier get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- h) Gateman shall report to the nearest Station Master, Gang mate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- i) In the event of gate signal becoming defective the Gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
- j) At the gate whose signal have become defective, the Gateman shall close and lock the lifting barriers on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco pilot to report the defect at the next station.
- k) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- l) Gateman shall ensure that his having competency certificate in his possession while on duty.
- m) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- n) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- o) Gateman shall see that the channel for the flange of the wheel is kept clear.
- p) Gateman shall keep the road surface well watered and rammed in case of unhealed roads.
- q) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- r) 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.
- s) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

5. ACTION IN CASE OF UNUSUAL OCCURANCE ON TRAIN:

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

- a) 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.


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

- b) 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.
- c) 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.
- d) In case of train parting, gateman shall not show stop hand signal but shall show prescribed signal for train parting.
- e) 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.
- f) 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:

- a) 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.
- b) 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.
- c) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- d) 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.


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

- e) 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.
- f) 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.
- g) 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.

B. Other action to be taken by Gateman:

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

Please see para 916, 918, 919 of IRPWM for visibility requirements at level crossings, provision of speed breakers on the approaching roads of level crossings and census of traffic at level crossings.

8. MODE OF OPERATION:

Detailed mode of operation for opening and closing the level crossing gate shall be provided in the respective Station Working Rules and Gate Working Instructions incorporating local operational requirements.

- a) Before taking off reception/departure signals Station Master shall inform the Gateman, the number, description and direction of the train.
- b) The Gateman shall have to adopt the following procedure to close the gate and transmit the control key to station.
 - 1. Key 'M' is obtained from Winch after closing the Level crossing gate and releases Lever No. GF-2.
 - 2. Lever No. GF-2 when reversed Locks the Level crossing Boom and releases Lever No GF-1 and Key 'N'.
 - 3. Key 'N' is transmitted electrically to SM through EKT-1 in conjunction with Lever No GF-1 reversed, controls concerned UP and DN signals.
 - 4. Lever No GF-1 is provided in the gate lodge to put back the concerned signals to 'ON' in case of Emergency.


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

- c) The reception/departure signals will then be taken 'OFF'.
- d) On completion of the Train movement SS on duty shall transmit back the Key 'N' through RKT to open the L.C Gates.
- e) In order to ensure that road traffic is not held up for a long time, the Station Master must ensure that the train is ready for departure in all respects before he advises the gateman for closing the gate.
- f) When a train has to be piloted to and from the station yard or any shunting movement is to be done, the staff deputed to pilot the train or to perform the shunting across the gate shall be personally responsible to ensure that the gate is closed against road traffic before allowing any movement across the gate.

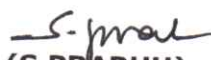
9. Working of Sliding Boom Barrier in case of Failure/Defectiveness of Lifting Barrier:

In the event of Lifting Barrier is fail to operate by any means or damage of Lifting Barrier the Gate man shall inform the SM on duty and seek the permission to operate the Sliding Barrier. Then Gate man shall adopt the following procedure for closing the Sliding Barrier.

- a) Key 'S' when extracted from the lock free EKT-3 makes road signal danger and actuates road Hooter and Key 'S' unlocks the Sliding Barrier-1.
- b) Sliding Barrier-1 is to be rolled across the road up to the lock post. The Key (Chained with Barrier) releases the lock plunger & Key 'SB1'. Key 'SB1' when extracted locks the Sliding Barrier-1.
- c) Similarly Sliding Barrier-2 after unlocking the padlock to be rolled across the road up to lock post. The key (Chained with Barrier) along with Key 'SB1' inserted releases lock plunger and Key 'SB2'. When Key 'SB2' extracted locks the Sliding Barrier-2 and Key 'SB1'.
- d) Finally released Key 'SB2' is to be transmitted electrically to SM through EKT-2 in conjunction with slot switch 'GS' reversed for taking off concerned signals.
- e) Sliding Boom arrangement is provided as a standby option during failure of normal working of LC gate.
- f) In case of emergency gateman will inform SM and obtained permission from SM, then emergency Key 'H' is to be extracted from EKT-4 (Electro mechanical free) provided at gate lodge (in a locked & sealed Red box with glass cover) for opening of the Gate.
- g) Once LC gate is closed & locked and gate control is transmitted to SM, then gate can be released through sequential occupation & clearance of respective track circuits after complete passage of train over the gate and the concerned signals are put back to 'ON' for Up and DN direction movement.

10. 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:


(S. PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

- 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 signalled 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 reconnection / fit memo for the same.

11. Failure of Gate Key with the Gate in closed position when Gate key cannot be extracted for opening the Gate:

- a) If the gate key cannot be extracted from the RKT, the gate lever or the key transmitter, then Gateman must immediately inform the Station Master on duty on telephone, under exchange or private number.
- b) Then the emergency key 'H'(in the Sealed Red Box with glass cover) which is available at the gate lodge, will take it out from the sealed box by breaking the seal and open the gate for road traffic.
- c) The record of the data and time of breaking the sealed cover of Emergency key box shall be recorded and signed with reasons.
- d) Thereafter, the gate must be treated as non-interlocked and procedure for reception/dispatch of trains as prescribed for non-interlocked gates, should be adopted.
- e) Station Master on duty shall issue a 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 the train in the block section from his end.


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

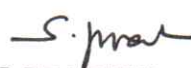
- g) Station Master will advise S&T staff responsible for maintenance of winch/gate levers/key transmitter to rectify the defect at the earliest.
- h) Normal working will resume only after S&T staff repairs the winch/gate lever/key transmitter and issue reconnection/fit memo for the same.
- i) After rectification, the Emergency key shall be replaced in the Emergency Key Box and resealed by the S&T maintainer.

12. Failure of Gate Key with the Gate in open position:

- a) If the gate key cannot be extracted from the winch, the gate lever or the key transmitter, then Gateman must immediately inform the Station Master on duty on telephone, under exchange or private number.
- b) Thereafter, the gate must be treated as non-interlocked and procedure for reception/dispatch of trains as prescribed for non-interlocked gate should be adopted.
- c) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass the trains on hand signals.
- d) Station Master on duty shall issue a caution order to the loco pilot of a departing train.
- e) 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 the train in the block section from his end.
- f) Station Master will advise S&T staff responsible for maintenance of winch/gate levers/key transmitter to rectify the defect at the earliest.
- g) Normal working will resume only after S&T staff repairs the winch/gate levers/key transmitter and issue reconnection/fit memo for the same.

13. Obstruction at the Gate:

- 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


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'A'

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 reconnection / fit memo for the same.

14. Obstruction on the Track near Level Crossing:

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.5 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.


(S PRABHU)
DSTE/WAT


(DAVID RALF)
Sr.DEN/NORTH/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX 'B' TO STATION WORKING RULES OF RAYAGADA 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:

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

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

The Operator Console cum Visual Display Unit (VDU) in dual configuration is provided for operation of Signals, points, Crank handles and controls etc. A mimic yard diagram based on SI plan No. SI/23174 ALT-'B' shall be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the station mimic diagram of VDU will be dynamically updated.

3. SYSTEM OVERVIEW

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

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

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

3.1. DUAL VDUs – MODE OF SELECTION:

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

1. When the A-VDU is active ONLINE, the SMKEY Status of B-VDU will be in KEYOUT Condition with Red Color
2. Whenever SM wants to change the control from A-VDU to B-VDU, he shall apply SMKEY IN at B-VDU. During this time A-VDU SMKEY will get KEYOUT and the


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

Color will turn to Red. Vice-versa, the same operation will be applicable to change the Control from B-VDU to A-VDU.

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

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

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

4.1. ICONS AND INDICATIONS PROVIDED ON THE VDU:

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

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1.	PC 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.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
5.	Signal failure Ack. button	Red	Flashing indication appears when any signal fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement, buzzer stops. Inform S&T staff immediately 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.	SDG CNT-52, 57 & 59 buttons.	Yellow lamp indicates 'KEY IN'. Red lamp indicates 'SDG KEY LOCKED'	In normal condition yellow lamp will be lit. Whenever the Siding Control key is locked in route or otherwise red indication will glow.	
8.	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
9.	DN Block Release button	Yellow - Prepared for Block release.	On getting indication SM shall left click on the button icon which shall release Block Handle.	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.
11.	LC Gate Control-53 button	Yellow lamp indicates 'KEY IN'. Red lamp indicates 'Gate Locked'	When LC Gate is closed and Key transmitted to SM yellow lamp will be lit. Whenever the LC Gate is locked in route or otherwise red indication will glow.	SM shall click on the button icon to select menu to Transmit/Receive/Emergency operation of gate as required.
12.	DN IB axle counter	Red colour when Key is	Ensures operation of VDU by authorized person. SM	Protected by pass word. For

S. Prabh
(S PRABHU)
DSTE/WAT

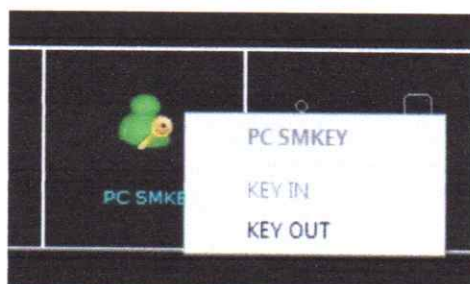
G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
	reset key and button (SPRD end)	'OUT' and Green colour when key is 'IN'	has to follow 'Key in' procedure followed by left click on the button icon to re-set IB axle counter.	each such operation, concerned counter shall register one count higher.
13.	Permission received from SPRD ack. button	Yellow permission received.	To acknowledge SS/SM has to left click on the ack. Button	--
14.	Permission granted to SPRD ack. button	Yellow permission granted.	To grant permission for resetting. SS/SM has to left click on the permission granting button.	--
15.	DN train run away in IB section muting button (section RGDA-SPRD)	Yellow—acknowledged.	On getting Alarm/Buzzer, SS/SM has to left click on the button icon to acknowledge the inside	--
16.	Axle Counter Reset key	Red light when Key is 'OUT'. Green light when key is 'IN'. Yellow light indication appears Line is verified clear from any obstruction.	Ensures operation of VDU by authorized person. SM has to follow 'Key in' procedure followed by left click on the button icon to re-set GSAXT axle counter.	Protected by pass word. For each such operation, concerned counter shall register one count higher.

4.2. PC SM KEY:

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

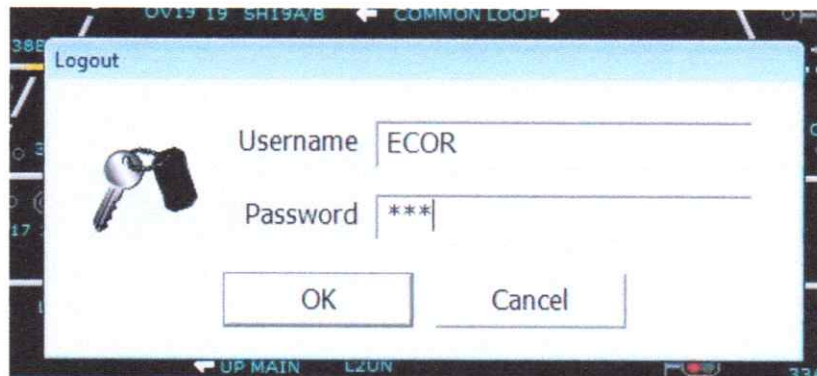


S. Prabh
(S PRABHU)
DSTE/WAT

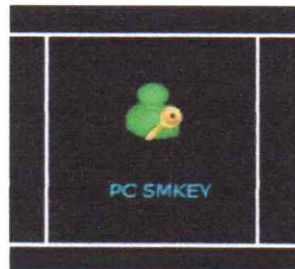
G. Suneel
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

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



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



VDU Control Changeover Operation:

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

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

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

4.3.1. K5BMC System Failure Indications:

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

a) ET LFL (Electronic Terminal Low Failure):


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

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

b) ET HFL (Electronic Terminal High Failure):

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

c) EI LFL (EI System Low Failure):

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

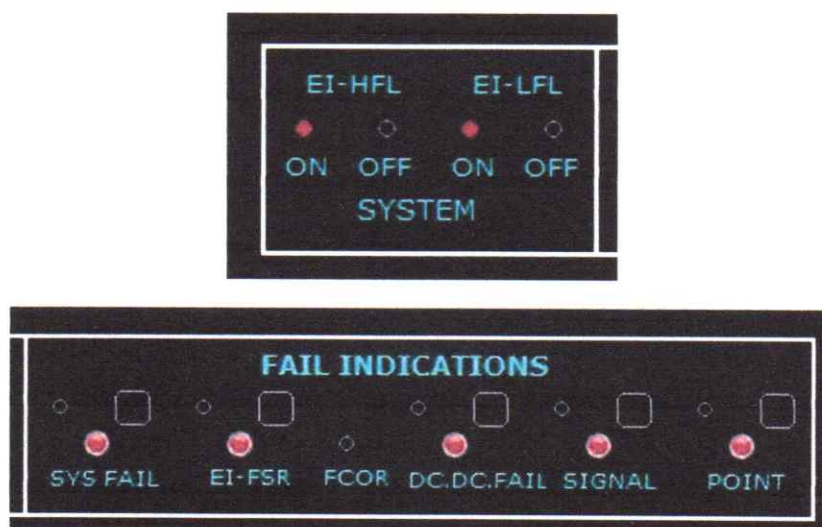
When any one of the above functions fail list will be displayed in EI LFL by a flashing red indication.

d) EIHFL (EI System High Failure):

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

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

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

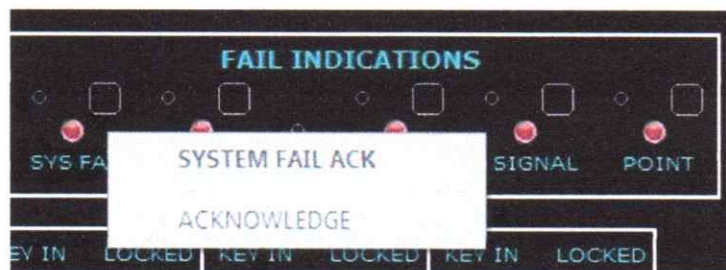


e) System failure Acknowledgement:

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

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT



f) K5BMC System Healthy Indications:

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

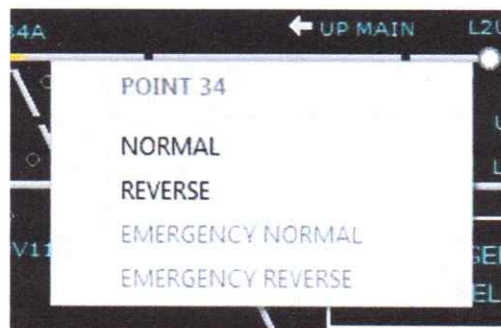


4.4. VDU ACTIVE INDICATIONS:

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

4.5. OPERATION AND INDICATION OF POINT:

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



4.5.1. REVERSE TO NORMAL OPERATION:

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

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

4.5.2. NORMAL TO REVERSE OPERATION:

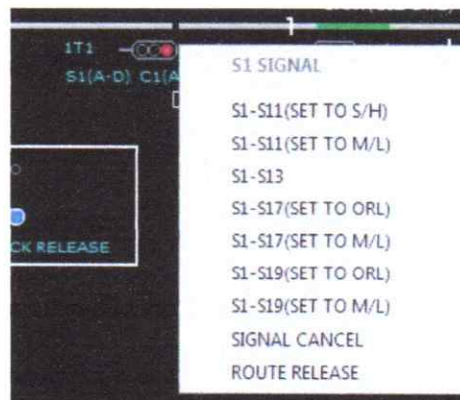
Track the pointer to **REVERSE** menu and click, a Reverse flashing indication will appear, the indication will be steady after the point is set to Reverse.

4.5.3. POINT INDICATIONS:

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

4.6. SIGNAL OPERATION:

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

**4.6.1. SETTING A ROUTE:**

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

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

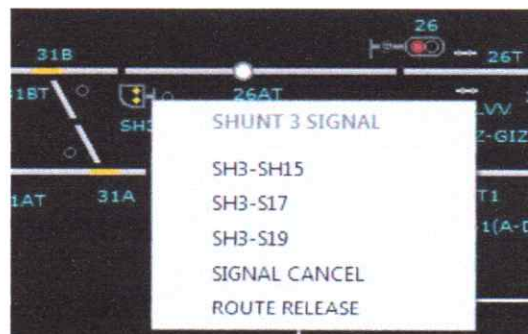
**Conditions for setting a route:**

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



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

**4.6.3. CALLING ON SIGNAL OPERATION:**

Calling-on signal route set operation is similar to the same procedure as mentioned for the main signal. For calling-on Signal, route is set after a train

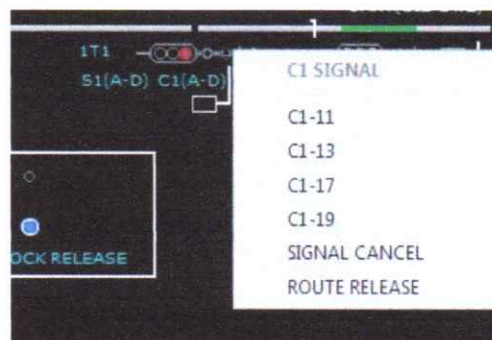
S. Prabhu
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

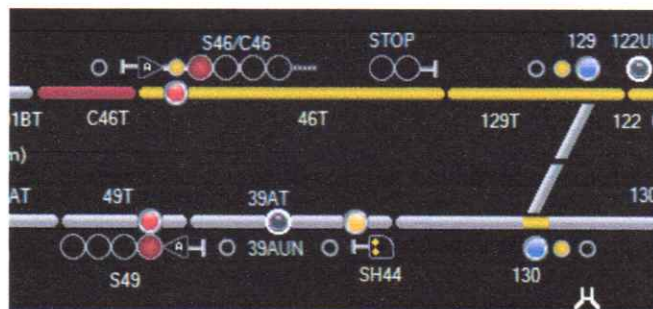
APPENDIX-'B'

occupies the approach track circuit in immediate rear of the stop signal. The calling on Signal below Home Signal/Intermediate Home Signal is cleared after a lapse of 60 Seconds provided other conditions are fulfilled. The calling on signal below starter Signal is cleared immediately on occupation of approach track circuit in immediate rear of the Starter Signal.

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal/Starter Signal, occupying the track circuit (1AT & 2AT as the case may be) in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be set by tracking the pointer in VDU on to the signal below which the calling on signal is provided. Left click on the calling-on Signal which will appear a pop-up menu as follows.



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



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

4.7. CRANK HANDLE CONTROL OPERATION:

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

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'



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



For Transmitting the Crank Handle KEY to the field personnel, SS/SM has to transmit the control by clicking **TRANSMIT** on menu of the Crank Handle Button. After transmission, the KEY IN indication will start flashing; now the KEY can be extracted from the EKT. After extracting the key from the EKT, the key IN indication will disappear. This action will be recorded in a respective counter of the counter box provided on SM's table. The counter will increment the number for each and every such action and also, this number should be recorded by the SM on duty who shall record the details of the Crank Handle operation along with the latest counter number in a register.

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

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

4.8. LC GATE OPERATION:

To Transmit or Release control of the LC gate control, right click on the concerned LC gate control button provided like the following button on VDU.

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'



The appearing pop-up menu gives details of the possible commands on the LC gate control.

Normally no indication will be available on the VDU indicating that the gate control key is out and gate is open. When it is required to close the gate, SM on duty shall intimate the gate man to close the gate supported by exchanging PN. Upon instructed by the SM on duty the gate man shall close and lock the gate and after reversing the concerned slot switch (GS) he shall transmit the gate control key to station by inserting and transmitting the key in the RKT. A flashing yellow indication on close indication and steady indication on GSRR indication will appear on the VDU seeing which SM on duty receive the control by clicking on the L.C. Gate control button icon and select 'Receive'. The close flashing indication shall become steady.

When the key is required to be transmitted to the Gate man, SM on duty has to transmit the control by clicking, after transmission the KEY IN indication will start flashing, now the KEY can be extracted from the RKT.

The locked indication will appear when the LC Gate has locked by initiation of any of the possible signal routes.

4.9. **OVERLAP TIME RELEASE:**

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

5. **EMERGENCY OPERATIONS:**

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

5.1. **CANCELLING A ROUTE/ EMERGENCY ROUTE RELEASE:**

To cancel a signal route when the route is set and the signal is taken-off, click on the signal cancellation menu (Main/ Calling on) of the concerned signal, the signal will immediately go to ON aspect, after doing so click on the Route release menu. Since all the Signals are having Dead approach, both the route locked indication near the signal and Emergency route release indication (UP or DN as the case

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

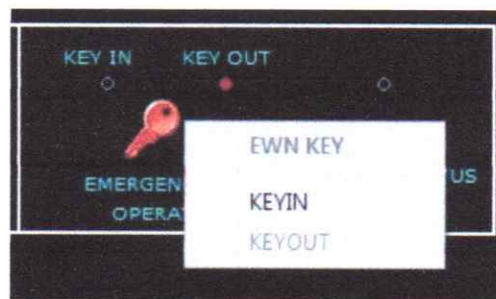
may be) will start flashing. After the completion of 120 Seconds, route nomination and route locked flashing indication disappears and veeder counter provided for the route release provided in the counter box on the SM's table will change to next higher digit. This number should be recorded by the SM on duty who shall record the details of the Route cancellation along with the latest counter number in a register.

5.2. EMERGENCY POINT OPERATION:

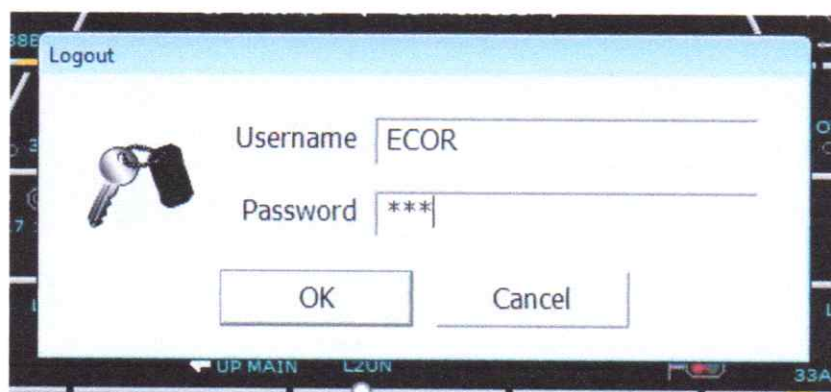
When the point zone track circuits failed without any point lock condition through respective signal route(s), a point can be operated by the Emergency Point operation.

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

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



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



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

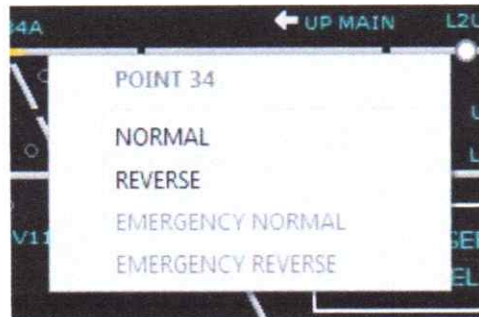
5.2.1. EMERGENCY NORMAL OPERATION:

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

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



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

5.2.2. EMERGENCY REVERSE OPERATION:

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

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

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

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

5.3. EMERGENCY CRANK HANDLE RELEASE OPERATION:

When a crank handle is locked due to route set earlier is not released or otherwise. To Transmit or Release control of the Crank Handle, SM on duty shall cancel the relevant signal first and then click on the crank handle control button icon provided like the following on the VDU. On clicking, the pop-up menu gives details of the possible commands on the Crank Handle.

S Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT



For Transmitting the Crank Handle KEY to the field personnel SM on duty has to click on '**TRANSMIT**' menu. After transmission, both the 'KEY LOCKED' (Red) & 'KEY IN' indications will start to flash for 120 seconds. After 120 seconds the 'KEY LOCKED' indication will vanish & 'KEY IN' indication will continue 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 '**RECEIVE**' menu.

This action will be recorded in a respective vedor counter 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 and shall record the details of the Emergency Crank Handle Operation along with the latest counter number in a register.

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

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

CRANK HANDLE CONTROLS FOR EMERGENCY OPERATION OF POINTS			
S No	CRANK HANDLE	CONTROL POINTS	PROVIDED IN
1.	CH1	31A/B, 37A/B	UP CH LOC-1, SPRD End
2.	CH2	36A/B, 39A/B, 51A/B	DN CH LOC-1, LDX End UP CH LOC-3, SPRD End
3.	CH3	33, 35A/B, 41A/B, 55	UP CH LOC-1, SPRD End
4.	CH4	47, 49A/B	UP CH LOC-2, SPRD End
5.	CH5	32A/B, 34A/B	DN CH LOC-1, LDX End
6.	CH6	38, 40A/B, 42A/B, 54A/B	DN CH LOC-2, LDX End
7.	CH7	44A/B, 48A/B, 50	DN CH LOC-3, LDX End
8.	CH8	61A/B, 63, 65	UP CH LOC-4, SPRD End
9.	CH9	43, 45A/B	UP CH LOC-2, SPRD End
10.	CH10	46A/B, 56	DN CH LOC-3, LDX End

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

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

When both the EI systems fails to operate due to power failure or whatever the reason, timer is initiated a flashing indication will appear on the Key box fixed on the SM table. Flashing indication will be steady after 120 seconds which results that releases the entire crank handles at a time and the SM on duty can set the required point/ points through crank handles manually by extracting the key/keys from EKTs provided in the location boxes. The signaling staff i.e., JE/SSE/Sig or ESM shall be intimated immediately regarding the failure for rectification of the same.

5.4. EMERGENCY GATE RELEASE OPERATION:

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

1. Station Master on duty shall first cancel the signal by signal cancellation control of the relevant signal.
2. Station Master on duty then shall click on the 'Emergency gate release control' in the gate popup menu.



3. The 'Emergency Gate release' indication will flash for 120 seconds and after the time has lapsed the Emergency Gate release indication along with Gate locked 'Red' indication will disappear.
4. Station Master on duty then shall transmit 'Gate Control' by clicking Transmit control' (as the case may be). The 'Key In' indication (white) starts flashing suggesting the key is transmitted to Gate man.
5. At gate lodge an indication will appear near RKT suggesting that the key can be released from the RKT for opening of the LC gate.
6. Seeing the indication gate man on duty shall extract the key from RKT and operate the gate.
7. On release of key from RKT flashing indication will disappear.

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

S. Prabh
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

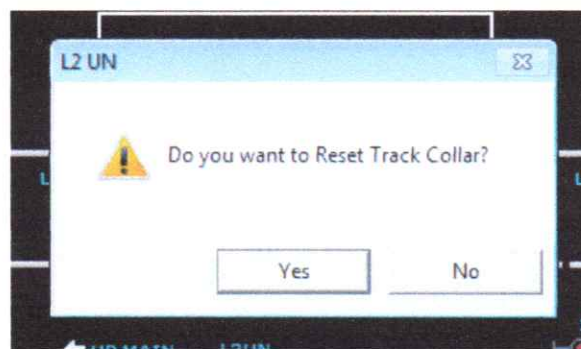
5.5. BLOCK AND UNBLOCK (REMINDER COLLAR) OPERATION:

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

**5.5.1. BLOCK OPERATION:**

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

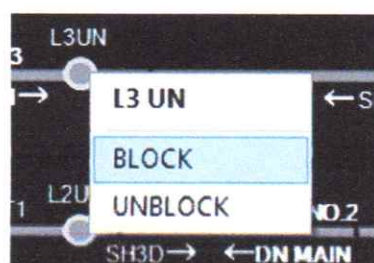
Select the "BLOCK" menu item from the list and press left mouse button or Enter key in the keyboard. A confirmation box appears as shown in below.



Now click YES option of the confirmation window and a Red Colour Block indication will be displayed.

5.5.2. UNBLOCK OPERATION:

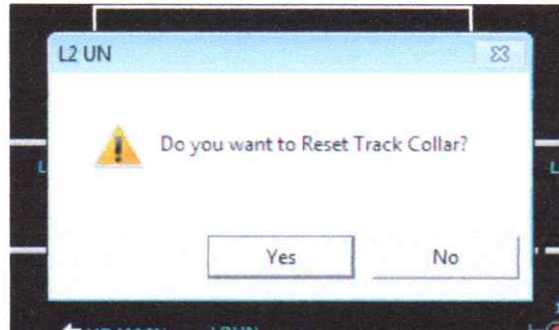
To unblock a button, place the mouse pointer over the blocked button and press the left mouse button. A popup menu with a list of available menu items will be displayed near to the control symbol as shown in below. Select the "UNBLOCK" menu item from the list and press the left mouse button or Enter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



S. Prabhu
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

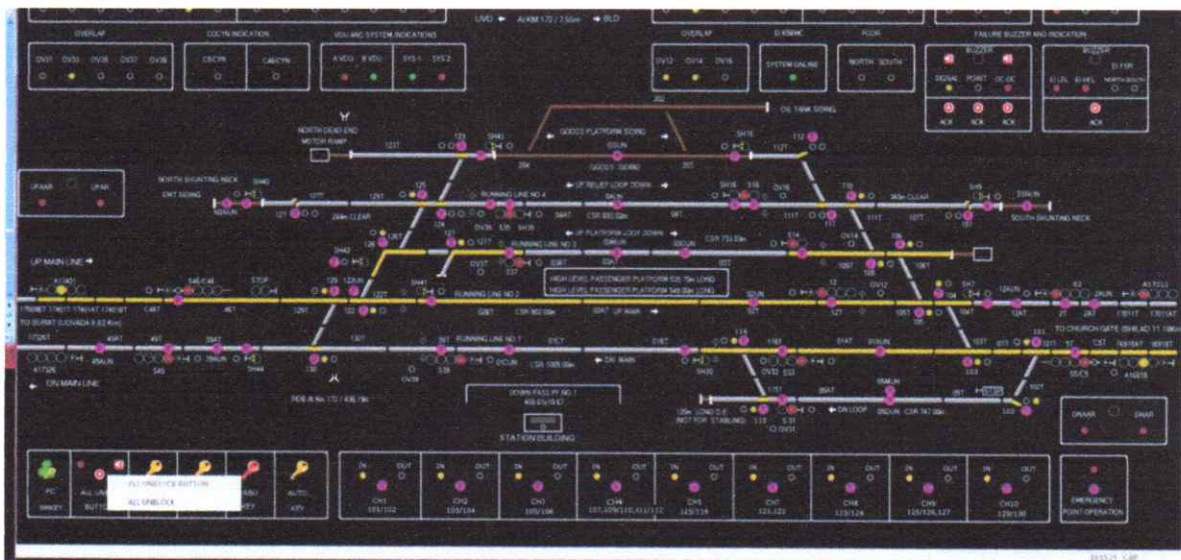
A confirmation message box as shown in below will be displayed to get the confirmation from the user. UNBLOCK command will be sent to EI system to unblock the button, when "Yes" buttons is clicked.



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

5.5.3. ALL UNBLOCK OPERATION:

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



6. DIGITAL AXLE COUNTER:

Single Section Digital Axle counters (SSDACs) are provided for last vehicle verification between RGDA-LDX on both UP & DN Lines, 28AXT (i.e IB portion on DN line), 15AXT (i.e IB portion on UP line), and SSDAC for last vehicle verification between RGDA-SPRD on both UP & DN Lines.

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

(S PRABHU)
DSTE/WAT

(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

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 and IB Home Signal as the case may be shall not come to 'OFF' and the concerned instrument shall remain locked in last operated position for that section.

In case of failure of the Digital Axle Counters, the SM on duty at receiving station 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. 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.

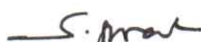
6.1. RESETTING OPERATION FOR LVCD (DIGITAL AXLE COUNTER):

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 RAYAGADA Station, SM of LDX/SPRD should perform the following step by step procedure from (b) to (i) for resetting the Digital Axle Counter.
- b) SM of RAYAGADA Station and LDX/SPRD 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 LDX and LDX/SPRD station.
- d) Release SM's Reset Key and Push button.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

- 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 OF IB AXT:

The detailed procedure for Resetting of IB Axle Counter is mentioned in the APPENDIX-'F' of this SWR.

6.3. RESETTING OPERATION FOR GOODS RECEPTION AND DESPATCH LINE AXLE COUNTER (GSAXT):

Analog Axle counter (GSAXT) is provided to prove clearance/occupancy of Goods reception and Despatch Line. The occupation/clearance of the axle counter section is indicated on the VDU by RED & GREEN indications respectively.

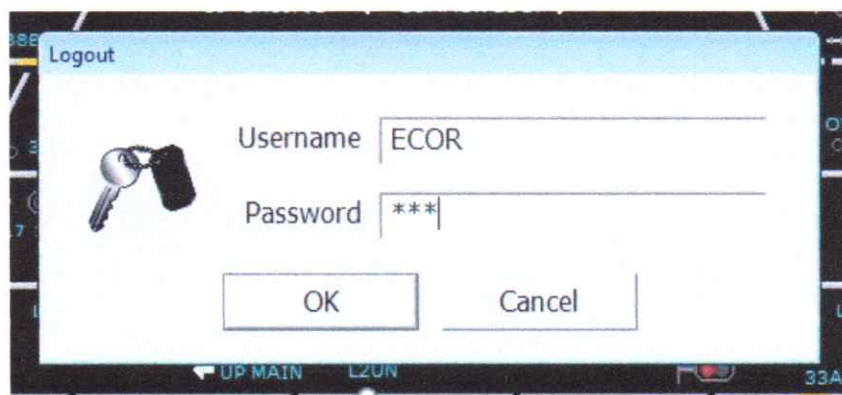
After clearing of a train or due to any failure, if the GSAXT does not show clear indication and section occupied indication continue to glow on VDU, SM on duty shall initiate resetting procedure.

Before initiating Resetting, SM on duty shall make the Axle Counter Reset Key is to be 'KEY IN'. To 'KEY IN' the Axle Counter Reset Key click on the SM's Axle Counter Reset Key a pop-up menu will be appears. Click on the KEY IN in the menu appeared and shall provide User name and password for the same as follows.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

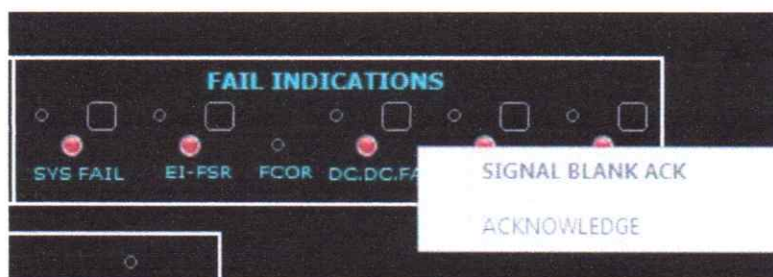


The user name of this station is 'ECOR' and password of this station is RGDA. Then on duty SM at RGDA station shall send a competent Railway servant deputed by SM, who in turn, verify that the concern Axle counter zone is clear of all obstruction then open the respective Line verification box and press the verification button provided in the line verification box near the Goods Reception and Dispatch Line.

On obtaining verification indication which is indicated by glow of light on the VDU below the verification indication, SM shall click the reset button for resetting the concerned axle counter and the same will be reset by this operation and concerned counter 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.

7. **SIGNAL LAMP FAILURE INDICATION AND BUZZER ACKNOWLEDGMENT:**

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

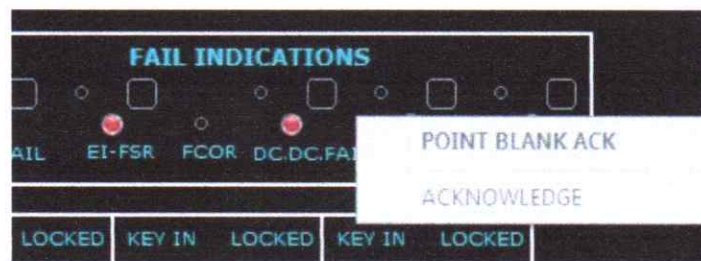


8. **POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND POINT FAILURE ACKNOWLEDGEMENT:**

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

S. Prabh
(S PRABHU)
DSTE/WAT

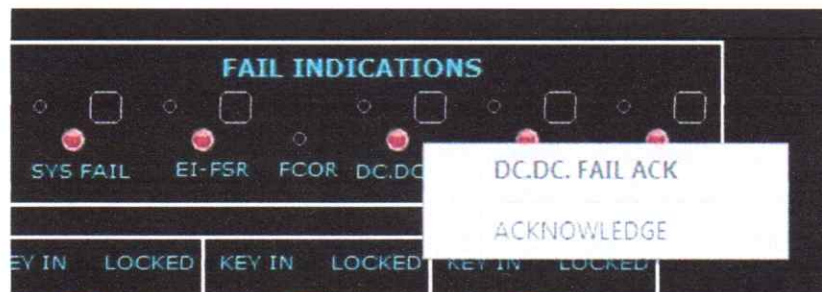
G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT



9. **POWER FAILURE INDICATION AND BUZZER ACKNOWLEDGEMENT:**

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

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

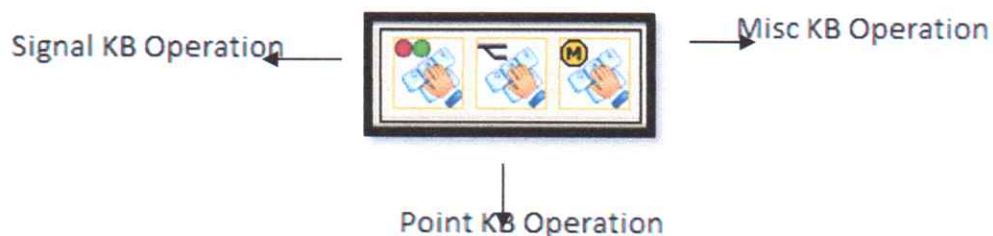


10. **KEY BOARD OPERATIONS:**

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

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

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



10.1. **SIGNAL KEY BOARD OPERATION:**

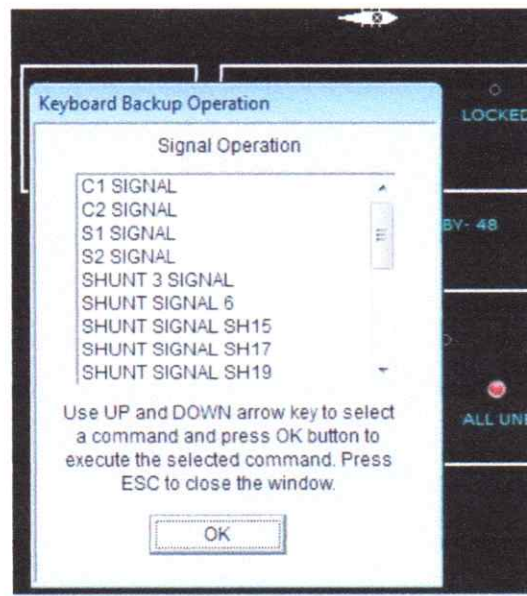
Alternatively signal commands can be accessed using the shortcut "Ctrl+S" from the keyboard. When the shortcut is pressed, a dialog box with all signal menus will appear as shown in below at the bottom left corner of the window. Using Up (↑) and Down(↓) arrow keys of the keyboard select the desired item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

S. Prabhu
(S PRABHU)
DSTE/WAT

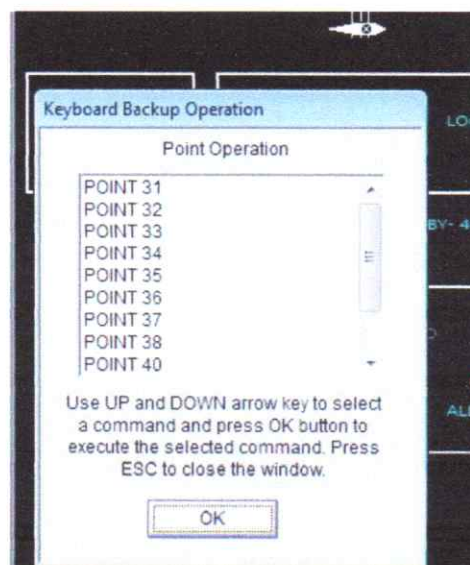
G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

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

**10.2.POINT KEY BOARD OPERATION:**

Alternatively, the point commands can be accessed using the shortcut "Ctrl+P". When the shortcut is pressed in the keyboard, a dialog box with a list of point commands will appear at the bottom left corner of the window as shown in below. Using Up (↑) and Down(↓) arrow keys of the keyboard, select the desired point command and press "Enter" key on the keyboard. A popup window with all possible menu items will appear near to the control and the dialog box will be disappeared. User by using "Up" and "Down" arrow keys select the desired command and press "Enter" key on the keyboard. After the command is selected, it will be sent to EI system and the popup menu will be disappeared.

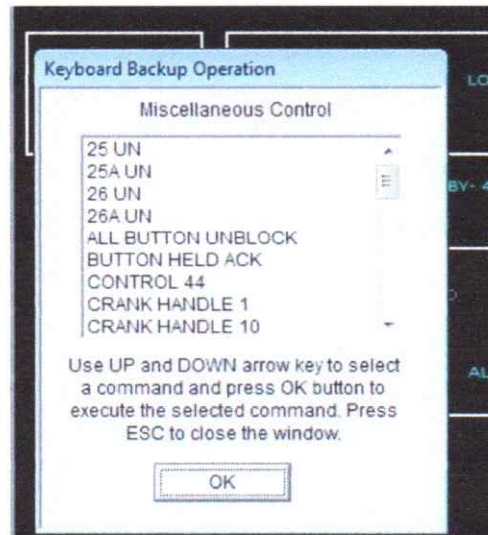


S. Prabh
(S PRABHU)
 DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
 Sr.DOM (M)/WAT

10.3. MISCELLANEOUS KEY BOARD OPERATION:

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



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

11. COUNTERS:

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

1. Emergency Route Release Counter.
2. Emergency Point Operation Counter.
3. Crank Handle Release Counter.
4. Up Calling on Counter.
5. DN Calling on Counter.
6. Emergency Gate Release Counter.
7. IBS Axle Counter Resetting Counter.
8. Axle Counter resetting counter for GSAXT.

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

12. TRACK CIRCUITS:

S. Prabhu
(S PRABHU)
DSTE/WAT

(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

Both UP & DN main lines, Common loop and Goods loop lines and all the point zones are track circuited as L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L2T4, L3T1, L3T2, L3T3, L3T4, L4T1, L4T2, L4T3, L5T1, L5T2, L5T3, L6T1, L6T2, L6T3, L7T1, L7T2, L7T3, 31AT, 31BT, 35AT, 35BT, 37AT, 37BT, 39T, 41AT, 41BT, 45T, 47/61T, 49T, 51T, 59T, 63T, 50T, 48T, 46T, 19T, 44T, 42AT, 42BT, 40AT, 40BT, 38T, 36BT, 34AT, 34BT, 32AT, 32BT.

Approach track circuits 1AT & 2AT of 5 Rail lengths for Calling on Signal are provided in rear of the Up and DN Home signals respectively. In addition there are short length track circuits 1T1 & 1T2 in advance of UP Home Signal and 2T1 & 2T2 in advance of DN Home Signal are also provided. Similarly there are track circuits 29T and 28T beyond UP& DN Advanced Starter Signal respectively for replacement of Last Stop Signal. From the last trailing point/fouling mark in either side of yard to Advanced Starter Signals are also track Circuited i.e 28AT and 29AT in DN and UP directions respectively. 74T track circuit is provided beyond the DN IB Signal No.74 for a length of 400M.

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

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

13. RELEASE/CANCELLATION OF ROUTE:

Normally when a train is received on or dispatch from any route, the route illumination will disappear automatically after passage of the train suggesting that the route is released. When the route is not released automatically after passage of train over it or when on SM on duty intends to cancel the route set by him shall follow the procedure for cancellation of route described in Para No.5.1 of Appendix-B. 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, UP & DN Advanced Starter Signals and DN IB Signal are to be manually cancelled after the passage of the train to release the route. In both the cases after passage of train, cancel the signal to release the route.

14. REPLACEMENT OF SIGNALS TO 'ON':

Signals are replaced to 'ON' automatically by the passage of a train beyond the signal. It will not be possible to re-clear the signal again unless the due process for clearing the signal is repeated again. For replacement of any signal to 'ON' position manually, the SM on duty shall follow the Para No.5.1 of Appendix-B.

15. PILOTING OF TRAINS IN TO STATION YARD:


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

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 3.69.03(a) & (c)].

16. PILOTING OF TRAINS - OUT OF STATION YARD:

- i) In case starter Signal has become defective SR 3.70.1 shall be followed.
- ii) In case Advanced Starter Signal has become defective SR 3.70.2 & 3.70.3 shall be followed.

17. SHUNTING:

Shunt back signals SH3(A/B/C/D/E) and SH4(A/B/C/D) are provided towards SPRD end of the yard and towards LDX end of the yard respectively. Shunt Signal SH5 and SH7(A/B/C/D) are provided on Shunting necks towards SPRD end respectively. Shunt Signal SH6 and SH30 are provided on Shunting Neck and Tower Wagon Siding towards LDX end. Shunt Signals SH72 is provided on Line No.2 towards SPRD end and Dependent Shunt Signals SH8(A-F) & SH9(A-E) are provided below Intermediate Home Signals towards LDX and SPRD end respectively. Dependent Shunt Signals SH71, SH17A/B, SH19A/B, SH21A/B and SH23A/B are provided on Line No.3 to 7 towards LDX end respectively. Dependent Shunt Signals SH20A/B, SH18A/B, SH16A/B and SH14A/B are provided on Line No.4 to 7 towards SPRD respectively. Dependent Shunt Signal SH10 and SH11 are provided on ARME/ART Siding towards SPRD end and LDX end respectively. Dependent Shunt Signal SH25(A/B/C) is provided towards LDX end for shunting from Diesel Engine Siding and loco Line. Dependent Shunt Signal SH12(A/B) is provided on Goods reception and Despatch line towards SPRD end. For taking OFF Shunt signals please refer Para No. 4.6.2 of APPENDIX-B.

18. GOODS SIDING/SIDINGS:**a) ARME/ART SIDING:**

ARME/ART siding takes off from line no-7 and is isolated by derailing switches at both ends and is operated by motor points. The ARME/ART will be received by taking off calling-on signal C-1A/B/C towards SPRD end and C-2A/B/C towards LDX end. The loco pilot after passing the calling-on signal shall come to a stop at Inner home signal no- S-9/C-9/SH-9 towards SPRD end and at Inner home signal no-S-8/C-8/SH-8 towards LDX end. Then the shunt signal no-SH-9 'F' route towards SPRD end and SH-8 'F' route towards LDX end shall be taken off for ARME/ART siding. After observing off aspect of the respective shunt signal, the loco pilot shall proceed towards ARME/ART siding. However, departure signals are provided for ARME/ART siding at both ends for dispatching.

b) SALOON SIDING:

One saloon siding takes off from line no-1 (common loop) and is isolated by derailing switch towards SPRD end. The entrance point is operated by motor point towards SPRD end and the other end i.e. LDX end is operated by arc lever. Starter signal no.28 is provided at SPRD end of the siding. Hand plunger locks fitted and unlocked by key 'B' from EKT provided in location box through control 59 from panel. When control 59 is transmitted from panel, signal routes of S-1A, C-1A, SH-3A/B, S-13, S-2C, C-2C, SH-4D, S-24 will be locked in their normal position.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

c) WHEEL SIDING:

The wheel siding takes off from ARME/ART siding at SPRD end terminates into dead end. The entrance point is operated by arc lever. Hand plunger locks fitted at the entrance point unlocked by key 'C' from EKT provided in location box through control-52 from panel. When control 52 is transmitted from panel, signal routes SH-9F, S-11, SH-11, SH-8F, S-10, SH-10 will be locked in their normal position.

d) DIESEL ENGINE SIDING (OIL SIDING):

The diesel engine siding takes off from ARME/ART siding and is extended to join the loco line at LDX end of the yard. The entrance point is operated by arc lever. Hand plunger locks fitted at the entrance point unlocked by key-'C' from EKT provided in location box through control 52 from panel. When control 52 is transmitted from panel, signal routes SH-9F, S-11, SH-11, SH-8F, S-10, SH-10 will be locked in their normal position.

e) CONCRETE SLEEPER FACTORY SIDING:

The concrete factory siding with one loop takes off from loco line and terminates into dead end towards LDX end of the yard. The entrance point is hand operated locally at site.

f) LOCO LINE:

Loco line takes off from shunting neck towards LDX end and extends in the form of a triangle and merges into Goods reception and dispatch line. The points are hand operated locally at site. The loco movements to and from loco line are controlled by shunt signals.

g) QUARRY SIDING:

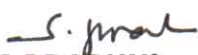
Quarry siding takes off from loco line and terminates into a dead end at LDX end of the yard. The entrance point is hand operated locally at site.

h) TOWER WAGON SIDING:

Tower wagon siding takes off from before shunting neck point towards LDX end and terminates into dead end towards LDX end of the yard i.e., in the tower wagon shed. The points are Motor operated points and operated from panel. One shunt signal is provided for dispatch of trains towards RGDA yard.

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

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


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

20. MAINTENANCE OF S & T INSTALLATION AND ADHERENCE TO MAINTENANCE SCHEDULES:

Regular maintenance of the S&T installations, adherence to schedules of maintenance testing of points, track circuits, level crossing gates, associated interlocking apparatus cables and the interlocking functional tests is must for safe and satisfactory working of these installations at this station.

The tests, checks and replacements etc., shall confirm to the schedules of maintenance as indicated in the Signal Engineering Manual as also as per the current and extant instructions/circulars on the subject.

21. RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

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

22. PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:

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

23. EMERGENCIES:

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

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

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


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

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

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

- c) The station Master on duty should verify from the visual indication available on the VDU/other means that the points are set to the desired position as instructed by him (Normal or Reverse) and thereafter return the crank handle received by him to the respective location box.
- d) He should also verify from the operating official deputed to set the defective point(s) that the same is also clamped and padlocked, supported by a private number.
- e) The station master on duty after ensuring the correct setting of defective point(s) as required in above Paras (b), (c), (d) can take off the concerned signals for movement of the trains over the point(s).
- f) If even after complying with the instructions contained in paras (b) to (e) by station master on duty, the correct setting of the defective points to the desired position is not indicated in the visual indication provided, the train shall be piloted in and out in terms of SRs 3.69.01, 3.69.02, 3.69.02, 3.70.01 and 3.70.02.
- g) The cases of failure of motor point should be promptly reported to the concerned signal maintainer/signal SSE/JE for immediate rectification of the same.
- h) Whenever a Crank Handle key is required to be used by a Signal Official for maintenance or attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the Crank Handle register, the Station Master on duty will obtain acknowledgement of the Signal Official in the Crank Handle Register and then handover to him the Crank Handle key for the Points concerned. All the Points will be treated as defective till the Crank Handle key is returned back to Station Master on duty.
- i) Whenever the emergency crank handle(s) is/are handed over to a Signal official for maintenance work or rectification of a failure, the points for the effected line should be treated as non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points over which the train is to pass, as per SRs 3.69.01, 3.69.02, 3.69.02, 3.70.01 and 3.70.02.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

- j) The Crank Handle Register is to be maintained in the following pro-forma by the Station Master on duty wherein the particulars of usage of the Crank Handle must be recorded:

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

25. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:**25.1. INTERLOCKING WITH HOME SIGNALS:**

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

25.2. INTERLOCKING WITH ADVANCED STARTER SIGNALS:

The UP Advanced Starter Signals No.29 is electrically interlocked with respective DLBI of section RGDA-LDX so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in 'LINE CLEAR' position.

The DNIB Signal No.74 is interlocked with DLBI of section RGDA-SPRD so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in 'LINE CLEAR' position.

25.3. SUSPENSION OF LAST STOP SIGNALS:

When the DLBI instrument for section RGDA-SPRD, RGDA-LDX is suspended with its handle in any position for whatever reason the concerned Last Stop Signals and IB Home Signal controlled by the DLBI must be treated as suspended and trains shall be worked as per GR 14.25, SR 3.70.02 & 3.70.03.

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

1. Digital Axle Counter (SSDAC) is provided for Block Sections between RGDA-LDX and RGDA-SPRD.
2. The occupation and clearance of the axle counter section are indicated on the VDU by 'RED' and 'GREEN' light.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

3. If any Block proving Axle Counter [LVCD] section fails, the Last Stop Signal/IB Signal at the rear station cannot be taken 'OFF' and Block instrument at Advance Station cannot be turned to 'Line Closed' position. In such case, resetting of last Vehicle Checking Device is to be resorted to in either Station.
4. No train shall be allowed on signal to leave a station in any particular section unless:

Block Section clear indication is available for the relevant Axle Counter section portion and Last Stop Signal is taken OFF. [Refer Para No: 6.1 of appendix 'B' for procedure of resetting of LVCD Axle counter].

27. 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) Standby Power 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 Auto changeover CLS Panel provided in the SM's office connecting the power supply from the healthy sources to the installation in case the knob is not in Auto mode.

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

- a) An Auto change over CLS Panel 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.
- b) 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.

- c) 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].
- d) 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


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

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.

- e) 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.
- f) 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.
- g) For IPS system that provides supply to EI, the output of selection supply from Auto CLS panel is taken.
- h) There is a remote monitoring ASM box provided at the station to monitor the health of IPS.
- i) DG set is also provided as standby power supply

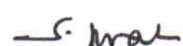
28. WORKING OF INTEGRATED POWER SUPPLY [IPS, INDICATIONS & ACTION TO BE TAKEN BY SM ON DUTY:

Power supply to the signalling installation is fed through Integrated Power Supply System [IPS] installed in the S&T power supply room. For IPS system, 230V AC is taken from the selection output of the Auto change over CLS panel at SM's Office. There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

The IPS system is connected with battery as a backup power source for safe working during transition of power and in case 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 110VDC battery bank provided as backup source of power supply. Depending up on the health of the battery bank and the system the following indications/alarm will appear on the remote monitoring panel. The indications/alarm, their implications and action to be taken by SM on duty is tabulated below:

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


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

SN	Instruction	Health of Battery Bank/Equipment.	Visual Indication	Audio Indication	Action to be taken by SM on duty
					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 IPS.

29. WORKING OF AUTOMATIC FIRE DETECTION AND ALARM SYSTEM:

- In case of any alarm in any particular area due to fire or dust-Zone number on the LCD display can be seen.
- Note down the zone No. and panel display name, by referring display chart.
- Once you find the zone number rush to that particular area where the detector gives alarm.
- The moment the smoke detector detects any smoke particles, the RED LED will blink along with the alarm.
- Once you reach the area where the detector is giving the alarm, check whether the alarm is due to the fire or for any other reason.
- To alert the people in case of emergency press "*" sign of the fire which is present inside the key pad together for few seconds. This will enable you to hear the panel alarm.
- To reset the panel press "OFF" button and enter the code 1111 (1 digit four times).
- The control panel will get reset and siren muted.
- If the power fails on this will enable us to see the red indicator on the panel.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'B'

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


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'C'

APPENDIX 'C' TO STATION WORKING RULES OF RAYAGADASTATION
ANTI COLLISION DEVICE [[RAKSHA KAVACH]:

-NIL-


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'D'

APPENDIX 'D' TO STATION WORKING RULES OF RAYAGADA STATION

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

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.

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.
- 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 14.07.1 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.

3. TRAFFIC POINTSMAN:

- i) He shall work under the orders SM on duty.
- ii) He shall couple and uncouple vehicles under the supervision of SM.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'D'

- 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 follow OM Chapter-2.

4. GATEMAN:

- a) He shall be responsible for proper operation of the gate as per SWRs for the passage of trains.
- b) He shall ensure that no train suffers any detention on account of late closing of the gate.
- c) He shall keep the channels of check-rails clean and shall clean the road within the railway limits and water the area regularly.
- d) He shall clean the gate lamps and hand signal lamps daily. He shall ensure that the wicks of the burners are trimmed so that these are lighted properly and kept burning continuously from sun set to sunrise.
- e) He shall keep the surroundings of his gate lodge clean tidy and neatly planted with shrubs, plants etc.
- f) He shall remain alert on duty till properly relieved. If he is required to leave the gate in an emergency he shall close and lock the gate booms against the road traffic before leaving the gate.
- g) He shall ensure that the equipment at L-xing are complete and in working orders.
- h) He shall produce the public complaint book when required by public for lodging complaint and to the railway officials for inspection.
- i) He shall ensure that road traffic is not unnecessarily held up at the gate.
- j) He shall stand in attention near the gate lodge facing the track and be prepared to repeat any signal which the guard may intend to convey to the loco pilot or show caution or danger signal should anything appear to be wrong with the train itself as it passes.

NB: - All staff should be in uniform while on duty and follow their rosters issued by DPO/WAT from time to time.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'E'**APPENDIX 'E' TO STATION WORKING RULES OF RAYAGADA 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	8
(v)	Clamps with Padlocks	12
(vi)	Skids	10
(vii)	Wedges	4
(viii)	Fire & Sand buckets	6
(ix)	Fire Extinguishers	2
(x)	Line blocking collars	6
(xi)	Motor trolley on line board	2
(xii)	Block suspension board	2


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX 'F' TO STATION WORKING RULES OF RAYAGADA**WORKING OF D.K.STATIONS, HALTS, IBS AND OUTLYING SIDINGS:****RULES FOR WORKING INTERMEDIATE BLOCK SIGNALLING BETWEEN RAYAGADA AND SINGAPUR ROAD STATIONS.**

The block section between Rayagada and Singapur Road has been split into two block sections by providing Intermediate Block Stop signals at KM 337.531 [controlled by RGDA station] for DN line and on up line at KM 338.184 [controlled by SPRD station]. Intermediate Block stop signals are controlled through double line lock and block instruments at the respective receiving ends.

- The Block working for section between Rayagada and Singapur Road on DN and UP lines is controlled by the Double line Lock and Block Instruments (SGE type) and are provided at Rayagada station and at Singapur Road Station. The Down LSS signal No.28 of Rayagada station and UP LSS signal No.15 of Singapur Road station are controlled by the clearance of IB section through respective IB section monitoring axle counters and the IB Home signal are controlled in turn through the line clear position of respective Double line lock and block instruments at the receiving stations.
- Trains between intermediate block signal to respective Home signal of Station in advance in both the sides are worked by means of SGE type lock block instrument vide 4.09, 5.07, 14.01 to 14.14 of the G & SR and chapter V of BWM.
- Last stop signal to the intermediate block stop signal in both the sides are controlled by Digital Axle counter and are worked under absolute block system in terms of G & SR 14.01, 14.13. Indications on VDU provided at Rayagada and at Singapur Road stations.

1. INDICATIONS PROVIDED ON VDU FOR I.B. SECTION:

The indications of signals, IB and Block sections in both up and down directions are shown in the following table:

i) SECTION: RGDA-SPRD

SN	Signal Aspect [S-28]	IB Section Indication [28A XT]	IB Home Aspect [S-74]	Block Section Indication	Remarks.
1	Green	Green illuminated when Section is clear.	-	-	LSS No.28 is taken off to dispatch a train up to IB Home.
2	Red	Red illuminated When train enters in to the section.	-	-	IB Section is occupied.
3	-	-	Green	Green illuminated	IB Home taken off for train up to


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'F'

				when Section is clear.	Home signal of SPRD
4	-	-	Red	Red illuminated When train enters in to the section.	Block section is occupied or IB Home signal passed at danger.

ii) IB SECTION:SPRD-RGDA

SN	Signal Aspect [S-15]	IB Section Indication [15 AXT]	IB Home Aspect [S-17]	Block Section Indication	Remarks.
1	Green	Green illuminated when Section is clear.	-	-	LSS No.15 is taken off to dispatch a train up to IB Home.
2	Red	Red illuminated When train enters in to the section.	-	-	IB Section is occupied.
3	-	-	Green	Green illuminated when Section is clear.	IB Home taken off for train up to Home signal of RGDA
4	-	-	Red	Red illuminated When train enters in to the section.	Block section is occupied or IB Home signal passed at danger.

iii) Buzzer/Bell:

- One audio buzzer is provided in the VDU at RGDA to detect train Entering section for outgoing trains. After train passes the intermediate block stop signal, the buzzer/bell will start ringing on VDU at RGDA station. On hearing the buzzer/bell the SM must acknowledge the same by pressing on train entering section [TES] muting button to stop the buzzer/bell and then send train entering section report to the SM of the station in advance who shall turn commutator of the Double Line Lock and Block Instrument from the Line Clear position to 'Train On Line position' and acknowledge train entering section following the procedures laid down vide Block Working Manual.
- In the event of failure of I.B. track circuit [i.e. track clear indication not available] which shall not permit taking 'OFF' last stop signal, it should be ensured by SM on duty at the dispatching station through exchange of private number with the SM of the receiving station that the last train that passed the last stop signal of his station has fully arrived at receiving station, before allowing the next train to enter in to the section, such permission to the next train shall be granted and the section RGDA-SPRD shall be treated as single section.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'F'

- c) By issuing the pilot memo when normalization of the system is not possible. In such case, line clear has to be taken on lock and block instrument. Trains are to be dispatched from the station only after obtaining line clear till such time track circuit is last stop signal is restored to normal.

2. NORMALIZATION OF THE TRACK CIRCUIT AND OF BLOCK WORKING BY RESETTING FEATURE:

- a) No train should be allowed to leave station in any particular direction unless I.B. track clear indication is available for the relevant track circuited portion of I.B. section and last stop signal cannot be taken off.
- b) A Resetting arrangement for the resumption of I.B. Axle counter under failure condition through co-operative features of both the SM on duty at either end station of the Block section is provided, which should only be resorted to after the train that was lastly sent arrives fully at the receiving station and is certified in this respect by the SM at the receiving station through exchange of private number.
- c) For monitoring of I.B. section working & re-setting of I.B. Axle counters, Track Indications and Re-setting arrangements are provided with Soft key on the VDU at RGDA station and button on the panel at SPRD station. Counters are also provided for the purpose of recording the re-settings for the I.B. Axle Counters in case of failures in IB section.
- d) The SS/S.M on duty at both the station shall maintain a separate register for use of resetting at IB Axle Counters wherein every operation of the resetting button shall be recorded giving details of date of use, train, number, time, number registered in the counter on VDU/Panels and reasons for resetting and initial each such entry.
- e) The procedure for resetting of the I.B. Axle counters in terms of clause viii (b) above shall be as follows:

SECTION: SINGAPUR ROAD - RAYAGADA ON UP LINE:

	DISPATCHING STATION [SPRD]		RECEIVING STATION [RGDA]
1	SM on duty shall call the attention of SM of RGDA station through Telephone for re-setting I.B. Axle counter zone giving details of last train left the station into the section.	1	SM on duty at RGDA after verifying that the said dispatched train arrives fully, shall exchange private number with SM on duty at SPRD and gives permission to re-set by clicking the 'Permission Granting' icon provided on the VDU. After clicking of a popup menu will appear consists of "Permission granting" and "Permission restore". Click "Permission granting" option SM will find a "Yellow" color


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'F'

		<p>indication above the push button.</p> <p>For each such operation the permission granting counter provided in the VDU shall increase by one digit.</p> <p>SM on duty shall make an entry of changed permission granting counter number in counter register.</p>
2	<p>On getting permission to reset from RGDA, a flashing indication will appear on panel (Permission received from RGDA) above permission acknowledgement button which shall be acknowledged by SM on duty by clicking "Permission received from RGDA acknowledgement push button and flashing indication will become steady.</p> <p>On duty SM at SPRD will then insert the IB reset key. Then the SM will press the IB reset push button appearing on the VDU for getting IB axle counter to be reset. After applying resetting on doing the above process for resetting of the IB axle counter first has to be piloted. On passing of the first piloted train IB axle counter will get reset.</p> <p>In case train passed at danger, the aforesaid resetting procedure is to be carried out and no need of first train piloting.</p> <p>For each such operation the IB reset counter provided in the panel shall increase by one digit.</p> <p>SM on duty shall make changed resetting counter number in resetting register.</p>	<p>2 SM on duty at RGDA shall withdraw the permission by clicking the "permission granting" icon provided on the VDU. After clicking of icon, a popup menu will appear consist of 'Permission Granting' and "permission restore".</p> <p>Click "permission restore" option the yellow colour indication above the ICON will goes blank.</p>

SECTION: RGDA -SPRD ON DN LINE:

	DISPATCHING STATION [RGDA]		RECEIVING STATION [SPRD]
1	SM on duty shall call the attention of SM of SPRD station through	1	SM on duty at SPRD after verifying that the said

S. Prabhu
(S PRABHU)
DSTE/WAT

G. Suneel Kumar
(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'F'

	<p>Telephone for Permission granting to resetting IB axle counter zone as well as train passed signal with danger (train run away condition) giving details of last train left the station in to the section.</p>	<p>dispatched train arrives fully, shall exchange private number with SM on duty at RGDA and gives permission to re-set by press the 'Permission Granting' button provided on the Panel, SM will find a "Yellow" color indication above the push button.</p> <p>For each such operation the permission granting counter provided in the Panel shall increase by one digit.</p> <p>SM on duty shall make an entry of changed permission granting counter number in counter register.</p>
2	<p>On getting permission to reset from SPRD, a flashing indication will appear on VDU (Permission received from SPRD) above the permission acknowledgement button which shall be acknowledged by SM on duty by clicking "Permission received from SPRD acknowledgement push button and flashing indication will become steady.</p> <p>On duty SM at RGDA will then enable IB reset key option by giving user name and pass word options. After entering user name and pass word options, the key will turn, from Red to Green in colour. Then the SM will click the IB reset push button appearing on the VDU for getting IB axle counter to be reset.</p> <p>After applying resetting on doing the above process for resetting of the IB axle counter first has to be piloted. On passing of the first piloted train IB axle counter will get reset.</p> <p>In case train passed at danger, the aforesaid resetting procedure is to be carried out and no need of first train piloting.</p>	2 <p>SM on duty at SPRD shall withdraw the permission by release the "permission granting" push button provided on the Panel and the yellow colour indication above the push button will goes blank.</p>


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

For each such operation the IB reset counter provided in the VDU shall increase by one digit.		
SM on duty shall make an of changed resetting counter number in resetting register.		

3. DISPATCH OF TRAINS:

Dispatch of trains is governed by the provision of G & SR 3.42, 3.70 and Block working manual rules.

a) From RAYAGADA Towards SINGAPUR ROAD:

Trains will be dispatched in accordance with the General Rules 3.42, 3.70., 3.75, 4.35 and 8.01 and subsidiary Rules thereto.

b) RAYAGADA TO IBS ON UP AND DOWN LINES:

The SM on duty shall ensure that the portion of Line between LSS and 400Mtrs beyond IBS at their respective ends is clear of obstruction and indication to this effect is available in the VDU at RGDA and Panel at SPRD and shall also ensure any non-isolated shunting at their respective ends suspended and shunting authority issued if any is withdrawn and kept in his custody.

Advise the Station Master at the station in advance, of the train No. and description of such intended train to be dispatched and shall take his assent supported by Private Number and shall then set and lock the route and take off the Starter and Advanced Starter.

c) IBS SIGNAL TO THE STATION IN ADVANCE:

The SM on duty shall obtain line clear over lock & Block instruments from the station in advance to dispatch a train past the IBS signal at the respective ends and shall take off the IBS signal by means of taking of signal No.15 of SINGAPUR ROAD on UP line and signal No.28 of RGDA on DN line for section RGDA-SPRD.

After the train passes the intermediate Block Stop signal of RGDA a buzzer will ring in the VDU. On hearing the buzzer/bell the SM must acknowledge the same by clicking train entering section [TES] muting soft button to stop the buzzer/bell and then send train entering section report to the SM of the station in advance who in turn will turn commutator of the Double line Lock and Block Instrument from the line clear position to Train On Line position and acknowledge train entering section. After dispatch of a train from RGDA into the Block section between RGDA and intermediate Block Post in case when the intermediate stop signal is not taken 'off' but the buzzer has started ringing, this may be either due to the train passing intermediate Block stop signal at 'ON' position or due to failure of the track circuit in advance of that intermediate Block Signal and shall exchange Private Number with the SM of the advance station indicating the occurrence and the number of the train. On getting the information from the SM supported by Private Number, the SM on duty at RGDA in turn will then inform the matter to SCR on duty and concerned S&T official.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'F'

The procedure must be rigidly followed irrespective of the fact whether line clear for train has been received from station in advance or not and this must be recorded in the Train Register and SM's diary book of both the Stations.

Dispatch of trains towards SPRD station. In case of failure of the DN Advanced Starter signal at RGDA Station due to failure of "Axle Counter" device or otherwise. If the failure of the Advanced starter of RGDA due to the failure of axle counting device or the indication lamp (repeated by indication lamp) showing 'Red' light either due to power failure or due to any other causes, the re-setting "Push Button" provided with Veeder counter at the SM office for resorting the normal function of the signal, should be operated accordingly to the following instruction whenever the DN Advanced starter signal of RGDA is found defective by the Station Master and the following procedure shall be adopted.

On receipt of this information, the SM on duty after ensuring that all trains which had left his Block Station had arrived complete and intact at SPRD station (by exchange Private Number with the SM/SPRD confirming this), shall press the resetting button of the axle counter. When the resetting is successful, it shall be indicated by a green light in the resetting panel provided in the SM office at RGDA. The use of this resetting button is registered on the veeder Counter and the SM should record this giving the details of the occasion with timings in the Veeder Counter register kept in the station.

If it is not possible to restore normal working of the counter by use of the resetting button, the ESM-in-charge of the section shall be served with a written memo to attend the defective signal and rectify the same. The ESM-in-charge of the section on being served with a memo by the SM shall attend the failure and rectify the fault. The ESM after ensuring that all S&T gears relating to defective signal have been attended to and are in working order except the axle counter which needs re-setting shall establish communication with SM concerned and ask him to reset the axle counter by pressing the reset push button. There after the SM on duty, after ensuring that all the trains which had left his Block Station had arrived complete and intact at SPRD (by exchanging of P.N with SM of RGDA confirming this) shall press the resetting button provided in the VDU at RGDA station and resume the normal working.

4. ACTION TO BE TAKEN IN CASE OF FAILURE OF INTERMEDIATE BLOCK STOP SIGNAL:

During the failure of Intermediate block stop signal GR 3.75 and SRs thereto shall be followed.

5. INDICATION CUM RESETTING PROVISION IN THE PANEL AT SINGAPUR ROAD:

The Panel has the following light indications at the Singapur Road:

- a) Yellow indications for the track- circuited portion by Axle Counter, which remain normally lit to indicate that the track is clear. These lamps extinguish no sooner the train passes the last stop signal and their place two red indication are lit to indicate that the track is occupied.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'F'

- b) Red indications for the last stop signal replacement track circuit which remain lit so long this track- circuit is occupied or in under failure condition.
- c) Red indication ahead of the IBS Signal, which are lit if the train passes the side signal in "ON" Position. These indications continue to glow till such time the lock and block working is resumed through emergence re-setting feature.
- d) Red indications just ahead of IBS Signal for the IBS signal replacement track circuit. These indications normally remain dark and are lit either during occupation by a train or during failure of this track circuit.
- e) Yellow indications for the block section for receiving trains. These indications shall normally remain no indications and shall be lit only when the incoming train passes the IBS signal. It remains lit till such time train arrives fully and Block Instrument is normalized.
- f) For resetting of I.B. Axle counter please refer Para No 2 of Appendix 'B' of this SWR.

Every Case of re-setting shall be entered in a register in the following proforma.

Date and time	Train No. Last entered the block section	Private No. of station ahead for Complete Arrival of the train Under Col.2	Veeder Counter No Before resetting operation completed	Train No. Entering Block Section Immediately after the resetting operation	Remarks	Signature of SS/SM
1	2	3	4	5	6	7

- g) If resetting is not possible under item as mentioned above, the system should be treated as failed and train will work treating the entire section up to the Block Station immediately ahead of the IBS Post as one block section as per GR 3.75(4).

RUNNING OF MOTOR TROLRIES ON IBS ZONE:

- a) While allowing motor trolly/4 wheeler tower wagon/material trolley etc., entire section between RGDA-SPRD shall be treated as one block section and shall be issued **T-369 [3B]** for passing IBS at "ON" position. BWM 5.39 shall be followed.
- b) After the complete arrival of the said Motor Trolly/4 wheeler tower wagon/material trolley etc., at the station ahead, Station Master at adjacent station shall exchange Private Number in token of complete arrival and then shall resume normal working by resetting the Axle Counter as stated in the SWR.
- c) Motor Trolleys shall not be allowed on following line clear.

NOTE:- Backing of train on the portion of line after passing the intermediate Block Stop signal normally shall not be allowed, However, if it becomes inevitable to back, such backing may be done with great caution as mentioned in SR 3.75.04.

6. SIGNAL POST TELEPHONE:


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX-'F'

A telephone socket (RE Type portable telephone kept with loco pilot with a RED Press button at the bottom is provided at the foot of each IB signal and is meant for loco pilot to contact the SS/SM in rear by pressing the RED button. The loco pilot of the train encountering the IB signal at 'ON' position shall contact the station in rear to find out the occupancy or otherwise of the block section ahead.

7. NORMAL POWER SUPPLY TO IBS GOOMTY:

Normal power supply to the Signalling and Interlocking installation at the IBS goomty is drawn from the traction power sources (230V-50 HZ, AT1 and AT2) with auto-change over arrangement in IB Goomty through a panel. Whenever any traction power supplies fail, the auto-change over unit will automatically connected to the other available AT supply.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT

APPENDIX- 'G'

RAYAGADA STATION

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS:

DETAILS OF WORKING RULES OF 25KV AC TRACTION.


(S PRABHU)
DSTE/WAT


(G.SUNEEL KUMAR)
Sr.DOM (M)/WAT