

STATION WORKING RULES

GOPALAPATNAM STATION

EAST COAST RAILWAY

WALTAIR DIVISION

INDEX OF GOPALAPATNAM STATION

SL NO	DESCRIPTION	PAGES
1	Station Working Rules	1 to 19
2	Appendix-A	20
3	Appendix-B	21 to 43
4	Appendix-C	44
5	Appendix-D	45
6	Appendix-E	46
7	Appendix-F	47
8	Appendix-G	1 to 19(G)

EAST COAST RALWAY
WALTAIR DIVISION
INDEX OF CORRECTION SLIPS

[illegible]

EAST COAST RAILWAY
WALTAIR DIVISION

STATION WORKING RULES OF GOPALAPATNAM STATION
(BROAD GAUGE)

No : WTF/5/SWR/GPT

Date of Issue: _____

Date brought into force: _____

NOTE:-

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

(1) STATION WORKING RULE DIAGRAM

- i Station working Rule diagram No.SI/WRD/23110 Alt 'E'
- ii CSTE/E.Co.Rly/DRG No.SI- 23110 Alt 'E'

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

i	Name of the Station :	GOPALAPATNAM (GPT)
ii	Class of Station :	'SPL'
iii	Section:	HOWRAH-MADRAS
iv	Double / Single line	Double line – GPT- SCMN- VSKP and GPT-VSKP-DVD. & By pass GPT-SCMN-DVD. Single line – JGPM- GPT- RYD/ Bock Hut Uni-directional line (SC dispatch) between DYD-GPT.
v	Electrified/Non-Electrified	Electrified
vi	Gauge BG/MG/NG	BG
vii	Railway	East Coast Railway
viii	Route	'B'.
ix	Situated at KM	872.232 KM
x	From	HOWRAH
xi	Operations	VISUAL DISPLAY UNIT (VDU)
xii	Standard of Interlocking	Standard-II (R)

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

a	Adjacent Block Station	Distance	Direction
i	Simhachalam North RRI	2.729 km	HWH END
ii	Visakhapatnam	6.191 km	VSKP END
iii	'A' Cabin WAT MYD (Reception yard)	510.27 m	WAT MYD END
iv	ELS and Reception yard (Block hut) of WMY.	1.912 km	WAT MYD END
v	Simhachalam North RRI on by pass double line.	2.22 km	SCMN END
vi	Jaggayyapalem	4.308 km	VSKP STEEL PLANT END

(S.PRABHU)
DSTE/WAT

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

vii	Duvvada	10.809 km	CHENNAI END
viii	'D' Cabin WAT MYD (S.C.Rly Goods Dispatch line)	3.844 km	WAT MYD END
Ix	DK Station & Out line sidings	NIL	
x	Passenger Halt	MARRIPALEM, between GPT-VSKP at KM 874/13-19	
xi	Provision of IBS	NIL	
xii	Provision of Auto Signals	GPT-VSKP	UP Line at signal no. SA-31, AS-1, AS3, AS-3A, AS-5, S-1 of VSKP.
			DN Line at Signal no. SA-60, AS2, AS4, AS6 and home signal no. 2 of GPT.
		GPT-DVD	UP line signals at KM no: 769/41-39, 768/39-37, 766/13-11, 765/5-3, 763/25-23, 762/23-21.
			DN line signal at KM no. 762/10-12, 763/22-24, 764/32-765/2, 766/4-6, 768/2-4 & 770/2-4.
		GPT-SCMN	UP line signal no SA-63, SA17.
			DN line signal no SA-32, S62.
		GPT-BY PASS	UP line signal no SA-71, S22.
			DN line signal no SA-21, S82.

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

S.No.	Between Stations	The Point from which the "Block Section" Commences	The Point at which "Block Section" Ends
1	VSKP-GPT Double line DN line	The rear block section commences at DN signal no. GAS 60 of VSKP.	And terminates at point no. 54A of GPT on down line.
	Up Line	The advance block section commences at UP automatic signal No. SA-31 of GPT.	And terminates at UP facing point No.101A on down line at VSKP.
2	GPT-SCMN Double line-DN line	The advance block section commences at Down last stop signal No. SA-32 of GPT.	And terminates at Pt No.152 A of SCMN on down line.
	Up line	The rear block section commences at UP last stop signal No SA-63 of SCMN.	And terminates at UP facing point No. 79A on UP line at GPT.
3	GPT-SCMN By pass single line (UP LINE)	i) The section commence at the Last stop signal No. SA-71 on by pass line of SCMN.	And terminates at First facing point 63B on Up line at GPT By pass line.

(S.PRABHU)
DSTE/WAT

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

	GPT-SCMN (DN LINE)	ii) The rear block section commences Down last stop signal No. SA-21 of GPT on By pass line.	And terminates at BSLB on DN line at SCMN By pass line.
4	GPT-JGPM.	The block section commences from UP last stop signal 34 of GPT.	Terminates at DN last stop signal 44 of JGPM.
5	GPT-A/Cabin of WMY Reception yard (Unidirectional Up line)	The advance block section commences at UP last stop signal No.23 of GPT.	And terminates at BSLB board on Goods Reception Line of RYD A/Cabin.
6	GPT- D/Cabin of WMY S.C.Rly Goods Dispatch line(Unidirectional Up line)	The rear block section commences at DN last stop signal No 63 of 'D' cabin.	And terminates at DN facing point No. 52 of GPT.
7	GPT-DVD DN line	The rear block section commences at DN signal no. SA-50 of DVD.	And terminates at trailing point no. 53B of GPT on down line.
	GPT-DVD UP line	The advance block section commences at UP semi automatic signal No. SA-36 of GPT.	And terminates at BSLB at DVD.

2.4 GRADIENTS:-

Section	Line	From	To	Inter Distance	Gradient
GPT-VSKP	ALL LINES towards VSKP	000.000M 387.640 M 587.640 M 927.640 M 1247.640M 2697.690 M	387.640M 587.640M 927.640M 1247.640M 2697.690M Into Section	387.640M 200.000M 340.000M 320.000M 1423.050M -----	1 in 450 Raising 1 in 400 Raising Level. 1 in 400 falling Level. 1 in 1000 Falling
GPT-SCMN MAIN LINE	UP & DN lines towards SCMN	000.000 M 098.030 M 280.000 M	098.030 M 280.000M Into section	98.030 M 181.970 M -----	1 in 450 Falling 1 in 800 raising 1 in 300 Raising
GPT-SCMN (By pass line)	UP LINE	From section 1109 M 1290.6M 1705M	1109M 1290.6 M 1705.00 M Into section	----- 181.6 M 414.33 M -----	1 in 450 Falling. 1 in 150 Falling. Level Level.
	DN LINE	From section 1085 M 1290.67 M 1705 M	1085 M 1290.67 M 1705 M Into section	----- 205.67 M 414.4 M -----	1 in 450 Falling. 1 in 150 Raising Level Level.

(S.PRABHU)
DSTE/WAT

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

GPT-DVD	UP & DN lines towards Duvvada	000.000 M	263.230 M	263.230 M	1 in 450 Falling
		263.230 M	598.730 M	335.500 M	1 in 150 Falling
		598.730 M	1033.680 M	434.950 M	1 in 260 Falling
		1033.680 M	1286.140 M	252.460 M	1 in 260 Falling
		1286.140 M	1638.860 M	352.72 M	1 In 423 Falling
		1638.860 M	1680.360 M	041.50 M	Level
		1680.360 M	1735.360 M	000.55 M	1 in 200 Raising
		1735.360 M	1736.060 M	000.700 M	1 in 350 Falling
		1736.060 M	1736.560M	000.500 M	1 in 200 Falling
		1736.560M	1736.810 M	000.25 M	Level
		1736.810 M	1737.610 M	000.800 M	1 in 250 Falling
		1737.610 M	1737.960 M	000.350 M	Level
		1737.960 M	1738.360 M	000.400 M	1 in 250 falling
		1738.360 M	1738.560 M	000.200 M	Level
		1738.560 M	Into section	-----	1 in 300 falling
Auto SECTION GPT-DVD	UP line bet GPT-DVD	Km.770.314M	Km.769.630M	0.684M	1 in 350 raising
		Km.769.630M	Km.769.396M	0.234M	1 in 200 raising
		Km.769.396M	Km.769.350M	0.046M	1 in 250 falling
		Km.769.350M	Km.769.280M	0.070M	Level
		Km.769.280M	Km.768.718M	0.562M	1 in 250 raising
		Km.768.718M	Km.768.147M	0.571M	Level
		Km.768.147M	Km.767.718M	0.429M	1 in 250 raising
		Km.767.718M	Km.767.236M	0.482M	Level
		Km.767.236M	Km.766.638M	0.598M	1 in 300 raising
		Km.766.638M	Km.765.118M	1.520M	1 in 263 raising
		Km.765.118M	Km.764.935M	0.183M	1 in 215 raising
		Km.764.935M	Km.764.585M	0.350M	1 in 150 raising
		Km.764.585M	Km.763.260M	1.325M	1 in 230 raising
		Km.763.260M	Km.763.160M	0.100M	Level
	DN line bet GPT-DVD	Km 762.175M	Km 762.985M	0.810M	1 in 150 falling
		Km 762.985M	Km 763.36M	0.375M	1 in 125 falling
		Km 763.360M	Km 764.61M	1.250M	1 in 150 falling
		Km 764.610M	Km 764.958M	0.348M	1 in 164 falling
		Km764.958M	Km 765.488M	0.530M	1 in 391 falling
		Km 765.488M	Km 765.647M	0.159M	1 in 200 falling
		Km 765.647M	Km 766.25M	0.603M	Level
		Km 766.250M	Km 766.306M	0.056M	1 in 200 falling
		Km 766.306M	Km 766.528M	0.222M	Level
		Km 766.528M	Km 766.917M	0.389M	1 in 200 raising
		Km 766.917M	Km 767.029M	0.112M	Level
		Km 767.029	Km 767.324	0.295M	1 in 200 falling
		Km 767.324	Km 767.441	0.117M	Level
		Km 767.441	Km 768.147	0.706M	1 in 250 falling
		Km 768.147	Km 768.618	0.471M	Level
		Km 768.618	Km 769.21	0.592M	1 in 250 raising
		Km 769.21	Km 769.35	0.140M	Level
		Km 769.35	Km 769.909	0.559M	1 in 250 raising
		Km 769.909	Km 770.206	0.297M	1 in 350 raising
		Km 770.206	GPT station	-----	Level

GPT-JGPM	Towards JGPM	598.730 M 1033.680 M 1284.140 M 1664.970 M 1784.730 M 2265.230 M 3493.730 M	1033.680 M 1284.140 M 1664.970 M 1784.730 M 2265.230 M 3493.730 M 4137.23 M	434.950 M 250.460 M 380.830 M 119.760 M 0480.500M 1228.500 M 653.500 M	1 In 260 Falling. 1 in 260 Falling. 1 in 454 Falling 1 in 400 Falling 1 in 173 Falling Level. 1 in 150 Raising
GPT-ELS 'B' HUT	Line between GPT-ELS BLOCK HUT	From ELS 971.000 M 1689.000 M 1720.000 M	971.000 M 1689.000 M 1720.000 M Into yard	971.000 M 718.000 M 031.000 M -----	Level 1 In 200 Falling. Level 1 In 260 Falling.
GPT - MYD 'A' Cabin	Emergency cross over line towards 'A' cabin	000.000 M 021.230 M	021.230 M Into Section	21.230 M -----	1 in 450 Raising 1 in 198 Raising

2.5. (A) LAYOUT:**Running lines in the main yard :-**

Since there is no berthing track facility available, all lines passed through station are treated as running lines.

(B) SIDINGS:- NIL**2.5.1 RUNNING LINES, DIRECTION OF MOVEMENT & HOLDING CAPACITY IN CSL :-**

All the lines are running lines and there is no berthing track facility for any line.

2.5.2 NON RUNNING LINES: NIL**2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT:**

Gopalapatnam is a 'Y' junction Station for various train movements of diverging/converging routes connecting Waltair Marshalling yard, VSKP coaching yard, VSKP Goods yard SCMN and DVD. No berthing track facility is available at this station. The following routes diverge or converge at GPT junction cabin

- E.Co.Rly double line between HWH-VSKP and S.C.Rly double line between CHENNAI-VSKP converging at this station.
- S.C.Rly Up goods dispatch line between 'D' cabin of WMY and GPT converge/diverge at this station.
- S.C.Rly DN goods line from DVD diverge for DN goods trains to go to reception yard of WMY.
- GPT-JGPM steel plant line takes off from this cabin with access to all routes.
- ELS Block Hut (WMY) – GPT line joins GPT-JGPM Steel plant line at DVD end of the yard.
- SCMN-GPT by pass line joins S.C.Railway double line at the DVD end.
- Reception yard of WMY connected to S.C.Rly Up line at GPT through Emergency

cross over.

2.6 LEVEL CROSSINGS:

NIL

(3) SYSTEM AND MEANS OF WORKING:-

System of working in force	:	GPT-DYD (SC dispatch)	Absolute Block System of working
		GPT-WMY	
		GPT-JGPM	
		GPT-ELS	
	:	GPT-BY PASS	Automatic Block System of working.
		GPT-DVD	
		GPT-VSKP	
		GPT-SCMN	
Double Line/Single Line	:	GPT-VSKP	Double Line
		GPT-DVD	
		GPT-SCMN	
		GPT-BY PASS	
	:	GPT-DYD(SC dispatch)	Single Line
		GPT-WMY	
GPT-JGPM			
Block Instruments	:	GPT-DYD(SC dispatch)	SGE type Double line lock and Block Instruments for unidirectional movement.
		GPT-A/Cabin	
	:	GPT-WMY	Daido type Single line block Instrument
		GPT-JGPM	
Co-operative/Non co-operative		GPT-DYD(SC dispatch)	Non Co-operative
		GPT-A/Cabin	
	:	GPT-B/HUT (Inter slotting system)	Co-operative
		GPT-DYD (SC dispatch)	
		GPT-WMY	
		GPT-JGPM	
Block Telephones	:	Attached with Block Instruments	
Staff responsible For Block Instrument operation and custody of Key	:	SM on duty.	

(4) SYSTEM OF SIGNALLING AND INTERLOCKING:

4.1

1	Standard of Interlocking	Standard – II(R)
2	Type of Signaling	MACLS
3	Mode of Operating the signals	VISUAL DISPLAY UNIT (VDU)

4	Provision of Calling –On signals	Calling-on signals are provided below Home signals (i.e. in both UP & Down directions) as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b).																						
5	Provision of Shunt signals	NIL																						
6	Emergency cross over	One Emergency crossover (with derailing switch) 73 is provided to facilitate reception of Up goods traffic from ‘A’ cabin towards DVD or Steel plant. The ‘A’ cabin end of the crossover is controlled through Slot switch No 68 provided on VDU of Gopalapatnam. The movement is controlled by Signal No 8 and 18A/B. One Emergency crossover point No 56 is provided at Visakhapatnam end of the yard to facilitate movement from Down line to Up line and vice-versa in case of emergency.																						
7	Track circuits	As per para No.6.4 (a) of Appendix ‘B’ of this SWR.																						
8	Axle counters	As per para No.6.5 of Appendix ‘B’ of this SWR.																						
9	Crank handle	<p>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 SS/SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals. 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.</p> <table><thead><tr><th>CRANK HANDLE</th><th>CONTROL POINT</th></tr></thead><tbody><tr><td>CH-1</td><td>---- 51.57.69.</td></tr><tr><td>CH-2</td><td>---- 53.61.</td></tr><tr><td>CH-3</td><td>---- 55.</td></tr><tr><td>CH-4</td><td>---- 71.</td></tr><tr><td>CH-5</td><td>---- 52.73.</td></tr><tr><td>CH-6</td><td>---- 54.58.</td></tr><tr><td>CH-7</td><td>---- 56.79.</td></tr><tr><td>CH-8</td><td>---- 81.</td></tr><tr><td>CH-9</td><td>---- 59.67.</td></tr><tr><td>CH-10</td><td>---- 63.</td></tr></tbody></table> <p>Procedure for operation of points by means of crank handle, in the event of failure of operation of points</p>	CRANK HANDLE	CONTROL POINT	CH-1	---- 51.57.69.	CH-2	---- 53.61.	CH-3	---- 55.	CH-4	---- 71.	CH-5	---- 52.73.	CH-6	---- 54.58.	CH-7	---- 56.79.	CH-8	---- 81.	CH-9	---- 59.67.	CH-10	---- 63.
CRANK HANDLE	CONTROL POINT																							
CH-1	---- 51.57.69.																							
CH-2	---- 53.61.																							
CH-3	---- 55.																							
CH-4	---- 71.																							
CH-5	---- 52.73.																							
CH-6	---- 54.58.																							
CH-7	---- 56.79.																							
CH-8	---- 81.																							
CH-9	---- 59.67.																							
CH-10	---- 63.																							

		through VDU, it is inevitable to operate manually by means of crank handle as per the procedure mentioned in Appendix-B, para no. 4.4.1.
10	Emergency Point operation:	Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit/Axle Counter. Before doing the emergency operation, the Emergency Point Operation Key is to be made "KEY IN" by clicking the KEY IN menu. The user name and password is be logged in. The user name is ECOR and the password of this station is GPT. On clicking the concerned point icon, a pop-up menu is displayed carrying four options: 1) Normal 2) Reverse 3) Emergency Normal 4) Emergency Reverse. For emergency operation of concerned point, drag the pointer to either emergency normal or emergency reverse whichever is desired. A normal or reverse flashing indication will appear and the indication will be steady after the point is set to Normal or reverse, whichever is desired. After the completion of Emergency point operation, the key is to be KEY OUT by clicking KEY OUT menu. The user name and password is to be given for KEY OUT also. This action will be recorded in a counter. All such operations will be registered in the emergency point operation counter Register. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose.
11	Inter Slot Working	(i) Inter Slot working is provided for single line working between GPT-B/Hut of MYD. The inter slotting is co-operative. (ii) Dispatch of train from A cabin of MYD to SCR DN line controlled through slot from GPT. The slot arrangement is non-cooperative and controlled through the VDU at GPT.

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

Double locking arrangement is provided in the relay room, one key with the custody of on duty SM & other one with the maintainer of S&T department. JPO issued by COM and CSTE/ECOR vide No.JPO/02/2012, Dt.29.08.2012 should be followed.

(S.PRABHU)
DSTE/WAT

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

4.3 POWER SUPPLY:

- (i) A changeover switch is provided in the Station Master's Office with the three power Supplies viz., Up AT, Down. AT and Local, for changing the switch to the required supply Position. A luminous indicator above the circuit breaker for each supply indicates the availability of the Supply.
- (ii) Normally the switch will be kept towards UP AT or DN AT position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other AT. If power block is to be given on the Up line, Down AT must be available and vice-versa.
- (iii) In case of failure of one of the AT supply without any power block, the on duty SM. has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is down and when tripped it goes up.) In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch.
If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any other mean and a message shall be given to the AEE and CTFO/PSI for prompt rectification.
- (iv) For IPS system that provides to EI is also from manual change over switch.
- (v) There is a remote monitoring SM box provided at the station to monitor the health of IPS.

REMOTE MONITORING ASM BOX:

- (a) Remote monitoring ASM Box gives alarm to the ASM for the following fault conditions:-
- (b) 50% depth of discharge (DOD) of battery. In this condition audio/visual alarm comes, which can be acknowledged with audio cut-off.
- (c) 60% DOD, which warns for emergency. The alarm for this condition is same as for condition
- (d) 70% DOD, which signals system, shut-down. In this condition signal feed is cut-off and all DC-DC converters continue working. Audio alarm continues till power supply is restored.
- (e) Any of the module fails, which calls for 'call S&T'.
- (f) Whenever there is a failure of power supply in one AT the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of power supply on both ATs and make an entry in the Station Diary duly initiating action for rectification of failure, if any.

(5) TELECOMMUNICATIONS:

- a) The Station is connected to VSKP – KTV Complex Control Circuit.
- b) Telephone attached to SGE type Lock and Block Instruments for sections
 - i) Gopalapatnam -Marshalling yard(WMY) 'D' cabin.
 - ii) Gopalapatnam - Marshalling yard(WMY) 'A' cabin.
- c) Telephone attached to Token less Block Instruments for sections.
 - i) Gopalapatnam -Jaggayyapalem.
- d) Magneto telephones are provided for working between

- i) Gopalapatnam - Marshalling yard(WMY) 'A' cabin.
- ii) Gopalapatnam - Marshalling yard(WMY) ELS Block hut provided with the following
- e) Magneto telephone communication is provided between SS to both side crank handle locations.
- f) Railway Auto telephone is provided at the station.
- g) The station is connected to OEC - KRPU traction power control circuit.
- h) VHF set is provided at the station.
- i) Auto telephone is provided for between SCMN & GPT Stations.

(6) SYSTEM OF TRAIN WORKING:

6.1 DUTIES OF TRAIN WORKING STAFF:-

The duties for working of train passing staff and this station is detailed in Appendix 'D' of this SWR.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

SL No.	COMPLEMENT OF STAFF	STAFF IN EACH SHIFT
1	Station Master	02
2	Points Man	01

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 Supdt's office and in Gate lodge for traffic gate man (details duties are given in APPENDIX-'D').

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

The SM on duty is responsible for ascertaining clearance of the nominated line between first facing point and advanced starter signal in each direction.

USE OF PRIVATE NUMBER BOOKS AND IDENTIFICATION NUMBER SHEETS:

Sufficient private number books and identification number sheets in sealed covers shall always be kept in stock by SMR under locked condition. A register shall be maintained for this purpose.

6.1.3 ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:

Any staff before taking of independent charge of duties connected to train working or any staff who is away from his duty for the period of 15 days or more shall sign in the assurance register as token of having understood the contents. However in the event of any corrections or modification in the SWR is involved the assurance of all staff who ever is entrusted the work of train passing duty shall be obtained a fresh in the assurance register by the in charge of the station before they are allowed to work vide SR-5.01.02.

6.2 CONDITIONS FOR GRANTING LINE CLEAR:

- (a) Before granting line clear for a train the SM on duty shall ensure that:
 - (i) The whole of the last preceding train has passed completely.

- (ii) All necessary signals have been put back to 'ON' behind the said train.
- (iii) All signal lights pertaining to the train are burning properly. (Ref GR.8.01 (1) (a) (b) and 8.01(2)(b) and 8.03 (1) (a)(b) & c(ii) SR 3.42.05 & SR 3.68.05).
- (iv) Adequate distance to be kept clear.

(b) DOUBLE LINE SECTION VSKP-GPT, GPT-DVD, GPT-SCMN MAIN AND BY PASS LINES UNDER AUTOMATIC BLOCK SYSTEM:

Under Automatic Block system for section VSKP-GPT, GPT-DVD, GPT-SCMN main and by pass line Trains shall work in accordance with GR 9.01(1) (a) (b)(c), i, ii, 9.01(2), 9.02 (1) (2)(3)(4)(5) and SRs there to 9.09, 9.10(1)(2), 9.11(1)(2) and SRs there to 9.12 and SRs there to 9.14 and SRs there to 9.15 and Block Working Manual Chapter No VI.

(c) SINGLE LINE SECTION AND INTER-SLOTTING SYSTEM:

Trains are worked under the Absolute block system and the conditions laid down in G&SR 8.01(a)(c) and 8.01(2)(b) and 8.03(2)(a)(b)(c)(ii) must be complied before the line clear is granted, to the station in rear. The station master on duty shall also ensure the concerned Home signal displays ON aspect on the VDU.

- (i) To dispatch a train from GPT to B/HUT, SM/GPT shall apply line clear. SM/B-HUT shall give Slot No.40 to SM/GPT after fulfilling condition of Granting line clear supported by Private Number. Slot indication will display in VDU at GPT. After obtaining slot from B/HUT, SM/GPT shall take off advance starter no.25 to dispatch the train. To receive a train from B/HUT to GPT, SM/B-HUT shall apply line clear. SM/GPT shall give Slot No.70 to SM/BHUT after fulfilling condition of Granting line clear supported by Private Number. Slot indication will display in VDU at GPT. After obtaining slot from GPT, SM/BHUT shall take off advance starter no.7 of B/HUT to dispatch the train to GPT.
- (ii) To receive a train from 'A'/Cabin, SM/'A'-Cabin shall apply line clear. After fulfilling all conditions for granting line clear, SM/GPT shall give slot no. 68 to SM/'A' Cabin supported by Private Number and under exchange of Identification Number. Slot indication will appear at 'A' cabin. On obtaining slot from GPT, SM/'A' cabin will set and lock the point in favour of outgoing train and then shall hand over paper line clear Ticket to dispatch train from 'A' cabin to GPT.

(d) ADEQUATE DISTANCE TO BE KEPT CLEAR FOR GRANTING LINE CLEAR

From station	Direction of trains	Up to the point where line is to be kept clear.
'D' cabin WMY	Up goods train to S.C.Rly or DN goods trains to S.E.Rly.(Uni-direction).	Crossover Pt 52 at 'D' cabin end.
Simhachalam North	Up trains.	UP to Point no.79A
Duvvada	Down trains.	UP to Point no.53 'A'

SINGLE LINE SECTION

ELS Block hut	Up trains	DN advanced starter signal No 25
Jaggayyapalem	DN trains	Up advanced starter signal No 34

6.2.1 ANY SPECIAL CONDITIONS TO BE OBSERVED WHILE RECEIVING OR DESPATCHING A TRAIN:

NIL

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE:

(S.PRABHU)
DSTE/WAT

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

Setting of points against blocked line does not arise at this station since trains will run through only due to non-availability of berthing facility.

6.2.1.2 RECEPTION OF A TRAIN ON BLOCKED LINE:

NIL

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 COMMON STARTER SIGNAL:

NIL

6.2.1.6 ANY SPECIAL CONDITIONS:

(A) SPECIAL RESTRICTIONS

1. As per CRS/SER/Kolkata's sanction no, 1322, dt: 13-01-17, "SM/GPT shall ensure that before taking off SA63 at SCMN, point no.56 is required normal condition . Once SA63 is taken off the point no.56 at GPT shall not be altered from normal position till complete arrival of train."
2. No train shall be booked to stop at this station due to no berthing track is available.
3. Before taking off Home signal /Calling On signal, Line clear should be obtained from advance block station.
4. Reception signal for a DN train from DVD/JGPM to VSKP shall not be taken off unless the train from VSKP to SCMN is stopped at the home signal.
5. Unless a line is kept clear at B cabin for receiving a train arriving from DVD the SS/SM GPT shall not grant line clear to DVD for DN Goods train.

(B) SPECIAL INSTRUCTIONS: NIL

6.3 CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS:-

The SM on duty shall nominate a clear line not only up to the starter but also for an adequate distance beyond it for reception of trains. (Refer GR 3.36, 3.38, 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).

In view of no berthing track the OFF aspect of the Home signal is interlocked with the OFF aspect of the last stop signal of the concerned route.

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 train as per GR 3.36 (2) (b).

6.4 SIMULTANEOUS RECEPTION/DESPATCH, CROSSING AND PRECEDANCE OF TRAINS:

According to the existing interlocking at the station, the following simultaneous reception and Despatch of trains is permitted.

A	While passing a train from Visakhapatnam to SCMN	Simultaneously another train can pass from "D" cabin to Duvvada OR Jaggayyapalem OR SCMN By-pass line
B	While passing a train from Visakhapatnam or 'D' cabin to Duvvada	Simultaneously another train can pass from Jaggayyapalem to ELS Block Hut and 'A' cabin OR DVD-SCMN By pass line.
C	While passing a train from DVD to SCMN on By pass line.	Simultaneously, another train can pass from JGPM to ELS 'B Hut" OR 'A' cabin. AND Another train can pass from SCMN to VSKP on HWH-VSKP line. AND Another train can pass from 'D' cabin to SCMN.
D	While passing a train from JGPM to SCMN or vice versa on By pass line.	Simultaneously, another train can pass from 'D' cabin or VSKP to SCMN on HWH DN main line.
E	While passing a train from MYD 'A' cabin to DVD.	Simultaneously, another train can pass from 'B Hut' to JGPM. AND Another train can pass from 'D' Cabin/VSKP to SCMN simultaneously.
F	While passing a train from DVD to VSKP.	Simultaneously, another train can pass from 'A' cabin/ 'B Hut' to JGPM.

6.5 COMPLETE ARRIVAL OF TRAINS:

The entire block section GPT- JGPM are monitored by axle counter system and the position of the block section whether 'Occupied' or 'Clear' is indicated on resetting VDU at SS/SM's office. Separate Multi section Digital Axle counter (MSDAC) is provided for UP & DN lines between GPT-DVD. The sections between GPT-VSKP is provided with continuous track sections and GPT- SCMN on both main lines and By pass lines are provided with continuous Track circuits and HASSDAC for redundancy. As soon as train enters in to the block section the RED indication appears on VDU. After whole train clears the block section GREEN indication appears on the VDU. This confirms the

complete arrival of train and SM on duty shall give 'Train Out of Block Section' report on seeing the section clear indication GREEN on the VDU.

In case a train passes incomplete, action shall be taken as per SR.4.17.02, "Train out of Block Section" report shall be withheld to the station in rear until Complete Arrival Certificate is received from the station in advance supported by a private number.

6.6 DESPATCH OF TRAINS:

To dispatch a train, the Station master on duty after obtaining line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the Indication on the VDU. He shall ensure that the Level crossing Gate is closed against road traffic and then shall take "OFF" the concerned signals. The 'OFF' aspect of the advanced starter is the authority to proceed into the block section. As soon as the train passes the advanced starter signal. Train entering section indication will appear on the VDU. The SM will then send the train entering given section signal to the station in advance. (Refer GR 3.38, 3.42, SR 3.42.02(a)(iv), 3.42.03 3.42.04 and BWM 2.07.5(a))

Dispatch of trains under **Automatic Block system** between section Gopalapatnam and Visakhapatnam and GPT-DVD shall be governed in accordance with the provisions contained in G&SR Para Nos 9.01(1) (a) (b)(c), i, ii, 9.01(2), 9.02(1)(2)(3)(4)(5) and SRs there to 9.09, 9.10(1)(2), 9.11(1)(2) and SRs there to 9.12 and SRs there to 9.14 and SRs there to 9.15 and Block Working Manual Chapter No VI.

A. For taking OFF Signal No 31 (semi auto signal) the following procedure shall be adopted.

- (i) To work signal No SA31 as manual stop signal click signal Icon No SA 31 and route icon No 31
- (ii) To work signal No SA31 as semiautomatic signal click King Switch icon provided on VDU and Route icon 31A.

The Station Master on duty shall watch the safe passage of the train with its last vehicle indicator. After the train passes the advanced starter completely, he shall send the train entering block section signal to the station in advance. If a train worked without Guard or Brake Van the instruction laid down in Subsidiary Rule shall be followed. The interlocked level crossing gate shall remain closed against road traffic for dispatch of trains. (Refer SR.4.23.02 & 4.25.02). Due to no Berthing facility all trains are booked to run through the station.

B. For taking off signal no. 36 (semi Auto signal) the following procedure shall be adopted

- (i) To work signal no. SA36 as manual stop signal click signal icon no 36 and route icon no 36A
- (ii) To work signal no. SA36 as semi automatic signal click king switch icon provided on VDU and route icon no. 36A

C. For taking off signal No.SA-32(semi Auto Signal) the Following procedure shall be adopted.

- (i) To work signal as Manual stop signal click signal Icon no.SA32 and Route Icon No.32.
- (ii) To work signal as semi automatic signal click king switch icon provided on VDU and route icon 32A.

D. For taking off signal no. SA-21(semi auto signal) the following procedure shall be adopted.

- (i) To work signal no.SA21 as Manual stop signal click signal Icon no.SA21 and Route Icon No.21.
- (iii)To Work signal No. SA21 as semi automatic Signal Click king Switch Icon Provided on VDU and route Icon 21A.

E. For taking off signal no.SA17 (semi auto signal) the following procedure shall be adopted

- (i) To work signal no. SA17 as Manual stop signal click signal Icon no.SA17 and Route Icon No.17.
- (ii) To Work signal No.SA17 as semi automatic Signal Click king Switch Icon Provided on VDU and route Icon 17A.

6.7 TRAINS RUNNING THROUGH:

6.8

- (a) The provision of GR 3.40, 4.17, 4.42 with relevant SRs and SR 3.42.02(a)(iv) and other relevant provision of BWM shall be observed.
- (b) The sequence for taking 'OFF' signals for run through trains is governed by SR 3.42.02(a).
- (c) The SS/SM on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General and Subsidiary Rule. (Ref GR 3.42, 4.17 4.42,& SR 4.42.02 (b) (i) ,(ii), (iii),c & (d)).

6.8 WORKING IN CASE OF FAILURE:

TRACK CIRCUITS:	In case of failure of track circuits, the clearance of the concerned line should be ensured physically before a train is piloted.
AXLE COUNTER:	If the axle counter fails between the block sections, resetting procedure will be adopted as per Para 5 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 for rectification.
BLOCK INSTRUMENTS:	In the event of partial/total failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer SR 6.02.03 & 6.02.06)
RECEPTION OF TRAIN ON OBSTRUCTED	NIL

LINE:	
RECEPTION OF A TRAIN ON NON SIGNALLED LINE:-	NIL
DEFECTIVE SIGNALS:	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. In case of disconnection of signal and interlocking for repairs and maintenance, procedure laid down in GR and relevant SRs shall be followed. In the event of signal showing no lights, Station Master on duty shall before giving line clear initiate action in accordance with the procedure prescribed in GR and the relevant SRs. [Refer GR 3.51, 3.69, 3.49 (4), 3.68 to 3.77]
INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:	However, before declaring a point is defective, the setting of the point on the route to which it applies shall be inspected by the Station Master irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.70 & SR 3.77.01(b)] Initiate action in accordance with the procedure prescribed in GR and relevant Subsidiary Rules there to. [Refer GR 3.49(4) and 3.68, 3.77]
DEFECTIVE INTERLOCKING:	When interlocking becomes defective the SM on duty shall be responsible for correct setting, clamping and padlocking of points for admission of train. [Refer SR 3.69.03(c) & 3.69.01].
DEFECTIVE/DAMAGED POINTS	When any point fails to operate normally by the route setting operation 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.

6.9 PROVISIONS FOR WORKING OF TROLLIES/ MOTOR TROLLIES/MATERIAL LORRIES ETC”

Motor trollies shall be worked as per GR 15.25 and SR thereto, BWM 5.11(1)(2), 5.12, 5.13, 5.14(2)(a) and circulars and orders issued from time to time.

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

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

(7) BLOCKING OF THE LINES:-

NIL

A. SECURING OF VEHICLES:-

Not Applicable at this Station.

(8) SHUNTING

No shunting is permitted at this station.

(S.PRABHU)
DSTE/WAT

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

(9) ABNORMAL CONDITION IN ABSOLUTE BLOCK SYSTEM

(9) ABNORMAL CONDITIONS: -	
(a) The rules to be observed in the event of abnormal conditions:	
i) During partial interruption/ failure of electrical communications instrument.	During partial interruption of communications trains shall be worked in accordance with BWM 5.16 & 5.23 & SR 6.02.06
ii) The Authority to proceed in to the occupied block section in case obstruction of line or accident etc.	Whenever it becomes necessary to send a train into the block station already occupied by another train or due to accident, trains shall be worked in accordance with SR 6.02.05 or SR 9.12.08. The authority to proceed shall be block ticket (i.e T/A-602 or T/C-912) as per SR 6.02.05 or SR 9.12.08 as the case may be.
iii) Trains delayed in block section.	When a train carrying passenger does not arrive within '10' minutes or a goods train within 20 minutes after allowing for its normal running time from the station in rear the Station Master at the station in advance shall immediately advise the station in rear and the Section Controller on duty of this fact. The procedure laid down in GR 6.04 and SR thereto shall be followed.
iv) Failure / Passing of intermediate block stop signal at 'ON':	NIL
v) Failure of axle counter block / BPAC:	Para No.5.0 in Appendix 'B' of this SWR to be followed.
vi) Failure of MTRC	NIL
(b) Procedure for emergency operation of Points by Crank Handle:	
(i)	The detailed procedure for emergency crank handle operation of motor operated points are mentioned in Para No.4.3.4 of Appendix 'B'
(ii)	Procedure for Emergency operation of point with axle counter track circuit failure are mentioned in Para No.4.3.4 of Appendix 'B'
(c) Certification of clearance of track before "calling on signal" operation is initiated:	
Before taking off Calling-on Signal during failure of track circuit/axle counter, the route and the clearance of the track over which train would pass to be verified by SM.	
(d) Reporting failure of points, Track circuits / Axle counters and interlocking:	
(i)	Whenever there is a failure of points, track circuits / axle counters or any other interlocking gear at the station the failure should be reported by SM on duty to the concerned signal maintenance staff on duty responsible for attending 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 all communications, trains shall be worked in accordance with provisions of SR 6.02.03 and 9.12.05.
- b.) During partial interruption of communications the rules laid down in SR 6.02.06 shall be followed.

(S.PRABHU)
DSTE/WAT

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

9.2 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION :

During Temporary Single Line working on one clear line when one line is obstructed either between GPT-VSKP, GPT-DVD and GPT-SCMN main and Bypass lines train shall be worked as per the procedure laid in SR 9.12.04.

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

Rules and regulations for working trains on an obstructed line in case of obstruction or accident on the authority of block ticket (T/A-602) or T/C-912 when communications are available shall be followed in accordance with the provisions of SR 6.02.05 and SR 9.12.08.

9.4 ABNORMAL WORKING IN CASE OF AUTOMATIC SIGNALING SIDE :**1) WORKING OF TRAINS DURING FAILURE OF ALL SIGNALS(IN DOUBLE LINE) AUTOMATIC BLOCK SYSTEM LIKELY TO LAST FOR SOME TIME AND CAUSE SERIOUS DELAY WHILE MEANS OF COMMUNICATIONS ARE AVAILABLE :-**

Shall be worked as per procedure vide SR 9.12.01.

2) WORKING OF TRAINS UNDER AUTOMATIC BLOCK SYSTEM (DOUBLE LINE) DURING OBSTRUCTION OF ONE LINE WHEN SIGNALS ARE OPERATED AND COMMUNICATIONS ARE AVAILABLE :

Procedure shall be followed as per SR 9.12.03.

3) PROCEDURE FOR WORKING TRAINS UNDER AUTOMATIC BLOCK SYSTEM (DOUBLE LINE) DURING OBSTRUCTION OF ONE LINE WHEN NO MEANS OF COMMUNICATION ARE AVAILABLE.

Shall be followed as per SR 9.12.04.

4) WORKING OF TRAINS UNDER AUTOMATIC BLOCK SYSTEM (DOUBLE LINE) DURING FAILURE OF THE MEANS OF COMMUNICATION WHEN SIGNALS ARE OPERATIVE:-

Procedure as per SR 9.12.05 shall be followed.

5) PROCEDURE WHEN SEMI-AUTOMATIC STOP SIGNAL IS 'ON'.-

Shall be followed as per GR 9.14 and SR there to

6) PROTECTION OF A TRAIN STOPPED IN AN AUTOMATIC BLOCK SIGNALING SECTION.-

Shall be governed vide GR 9.10.

7) When a Loco Pilot finds a Semi Automatic Stop signal with illuminated 'A' Marker to flicker/bob, he shall act in accordance with SR 9.02.02 or 9.07.02 as may be applicable.

8) VISIBILITY TEST OBJECT:

The signal lights of UP Starter signal No.19A/B (at VSKP end) and DN Advanced starter No.32 (HWH end) are the visibility test object vide GR 3.61.2(b)(iii).

9) ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-‘E’)

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

Placing of detonators is dispensed with since the station is equipped with the provision of double distant signalling vide SR.3.61.01 (d) note (i).

<u>LIST OF APPENDICES</u>			
	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 EQUIPMENTS PROVIDED AT THE STATION
	APPENDIX-F	:	RULES OF WORKING OF DK STATIONS, HALTS, IBH, IBS AND OUTLYING SIDINGS
	APPENDIX-G	:	RULES FOR WOKING OF TRAINS IN ELECTRIFIED SECTIONS.

APPENDIX 'A'

WORKING OF LEVEL CROSSING GATES

NIL

(S.PRABHU)
DSTE/WAT

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

APPENDIX 'B'

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:

This is a 'SPL' class station provided with Standard –II (R) interlocking. The station is provided with Route setting type Electronic Interlocking between points, signals, track circuits and other signaling gears. The Station is equipped with Multiple Aspect Colour Light Signaling. All points and Signals etc. are power operated through a Visual Display Unit (VDU) with a stand by installed in the SM's Office. The adjacent stations between GPT-VSKP, GPT-SCMN, GPT-DVD and SCMN-Bypass line are working as Auto signaling system.

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

The operation of Signals, Points, Crank Handles, Siding Controls, Resetting of all type of Axle counters and other controls etc., a VDU (Visual Display Unit) is provided along with a standby operation. A Mimic yard diagram based on SI plan No. SI/ 23110 Alt-'E' will be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the Station yard mimic diagram of VDU will be dynamically updated.

2.1 SYSTEM OVERVIEW:

An Operator Console consisting of a VDU (a high-resolution 41" colour monitor and Pentium-4 CPU), with keyboard and pointing device (mouse) connected with a computer (CPU) is provided. The CPU is connected to the Electronic Interlocking (E.I) equipment to exchange control and indication messages. The system is programmed to display the Station Yard Mimic VDU diagram on the VDU and that it allows access to all functions through pop-up menus. When a particular function is selected, an appropriate Menu will appear on the screen. A function (clearance of Signal or cancellation, Route release, Point operation, Gate release etc.) can be executed through selecting the required operation by clicking the Left button of the pointing device (mouse) on the desired function.

The Computer (VDU) to be used for controlling and monitoring the station, However indications on the Station yard mimic diagram of VDU will be dynamically updated .

2.2 An additional VDU connected with a computer is provided as standby arrangement in case of failure of the working operator console the system shall switch over to the stand by VDU automatically.

2.2.3 ICONS AND INDICATIONS PROVIDED ON THE VDU:

In addition to mimic yard diagram including signal, points, track circuits, 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.

Sl.No.	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1	SS/SM's Key	Yellow light when Key is 'IN'.	Ensure 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.	
3	Emergency point operation key.	Yellow light when key is 'IN'.	Ensures emergency point operation by authorized person.	For each operation concerned counter shall register one count higher.
4	---	System indication central-ON/OFF	Indicates system 'A' or 'B' is in working mode	
5	Point failure Ack. Button.	Yellow.	Flashing indication appears when any point fails. SS/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.
6	Signal failure Ack. button	Yellow	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.
7	CH-1,CH-2,CH-3 to CH-10 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.	
8	DN Reset key and button (JGPM end)	Reset key IN- Green OUT- Red Reset Button Activated- Yellow	When reset key is OUT Red indication appears and when made IN Green indication appears. When reset button is activated yellow indication appears.	
9	UP Reset key and button (JGPM end)	Reset key IN- Green OUT- Red Reset Button Activated- Yellow	When reset key is OUT Red indication appears and when made IN Green indication appears. When reset button is activated yellow indication appears.	

10	DN Reset key and button (D CABIN end)	Reset key IN- Green OUT- Red Reset Button Activated- Yellow	When reset key is OUT Red indication appears and when made IN Green indication appears. When reset button is activated yellow indication appears.	
11	DN Reset key and button (B- HUT end)	Reset key IN- Green OUT- Red Reset Button Activated- Yellow	When reset key is OUT Red indication appears and when made IN Green indication appears. When reset button is activated yellow indication appears.	
12	UP Reset key and button (B- HUT end)	Reset key IN- Green OUT- Red Reset Button Activated- Yellow	When reset key is OUT Red indication appears and when made IN Green indication appears. When reset button is activated yellow indication appears.	
13	Siding control -68	Yellow lamp indicates 'Key In'. Red lamp indicates 'Siding locked'	SM shall right click on the button icon to select menu to transmit/Receive operation of 'Sdg' key.	
14	COUNTER	-	As and when required SM shall point the cursor on the counter icon and right click on it. A drop down menu will appear indicating all the counters available in the system's/SM shall select the required counter on the menu and can read the latest counter reading.	
15	Line block button	Red when block	SM shall point the cursor on the icons provided on the berthing track and right click. One drop menu will appear indicating line block and un-	When line block is selected the concerned berthing portion of track will appear as thick Red line.

			blocked, SS/SM has to select the required menu.	
16	Approach warning ACK button (Main Line)		If the train passed the signal at adjacent station and the Home signal is not lowered at this station, then a buzzer appears and is acknowledged by this button.	In this case a warning buzzer does not appear if the home signal is taken off before the train passes the signal at previous station
17	Approach warning ACK button (By pass line)		If the train passed the signal at adjacent station , and the Home signal is not lowered at this station , then a buzzer appears and is acknowledged by this button.	In this case a warning buzzer does not appear if the home signal is taken off before the train passes the signal at previous station
18	TC/AXT Fail ACK button (Main Line)		When either T/ C or AXL fails the buzzer appears, that is Acknowledge by this button in Main Line.	
19	TC/AXT fails Acknowledge button (By pass line)		When either T/ C or AXL fails the buzzer appears that is Acknowledge by this button in Bypass line.	

2.2.4 Electronic interlocking equipment (E.I) at the center can work in either of the two modes i.e, system-‘A’ or system –‘B on the VDU (Computer),there are two system indications in which Green indication mentioning the on-line system and the Red indication mentioning that the system is in power off condition. Similarly ‘ON’ and ‘OFF’ indication have been provided for the end equipment’s.

(a) Controlling signals :-

Sl.No	Signals	Controlling Signaling
(i)	1A	Released by 21
(ii)	1B	Released by 5A/B
(iii)	3A	Released by 21
(iv)	3B	Released by 5A
(v)	3C	Released by 7A/B/C
(vi)	S2A	Released by 18A/B

(S.PRABHU)
DSTE/WAT

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

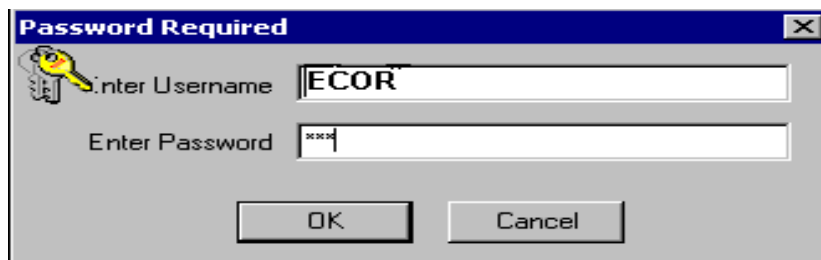
(vii)	S2B	Released by 32
(viii)	S4A	Released by 18 A/B
(ix)	S4B	Released by 32
(x)	SA17	Released by SA31
(xi)	S8	Released by 18A/B
(xii)	S10	Released by 34
(xiii)	5A	Released by SA31
(xiv)	5B	Released by 23
(xv)	7A	Released by SA31
(xvi)	7B	Released by 23
(xvii)	7C	Released by 25
(xviii)	S22A	Released by 34
(xix)	S22B	Released by 36

2.2.5 **OPERATIONAL PROCEDURE OF SS/SM'S KEY:**

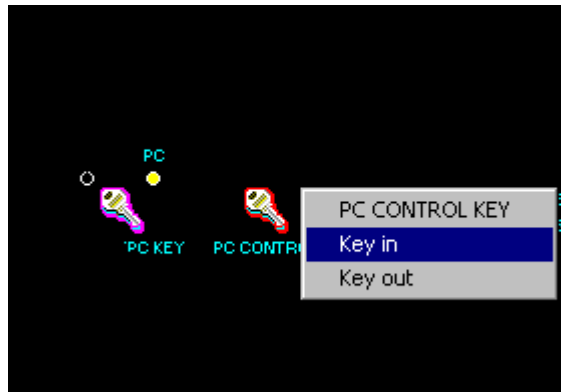
To prevent the unauthorized operation by any person other than SM on duty this facility is provided on VDU. On duty SS/SM needs to track the pointer to the "SM KEY" icon and click the "KEY IN" menu by clicking left button of the mouse, by this a pass word window will appear. SM on duty needs to enter the pass word and press 'OK' button provided on the pass word window. This will allow operating all the controls e.g, Signals, Points and crank handle etc. through VDU. In case incorrect pass word or user name is entered, no operation can be made. In such cases the same procedure is to be repeated till correct password is entered.

3.0 **OPERATIONAL PROCEDURE THROUGH VDU AND INDICATIONS.**

In addition to the mimic yard diagram various other indications will be available on the VDU. The implications of different indications provided and the operational procedure for different functions shall be strictly followed as per the following description..

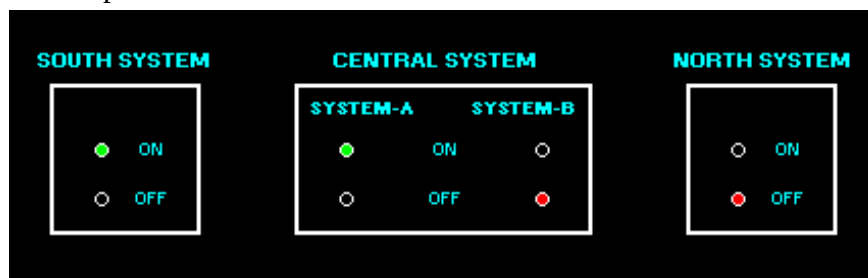


Enter the USER NAME and PASSWORD and click the OK button. Now the OP VDU is ready for use & the entire yard can be controlled from the VDU. Similarly select the KEY OUT when the Station Master to Prevent the Unauthorized Operation with User name and password.



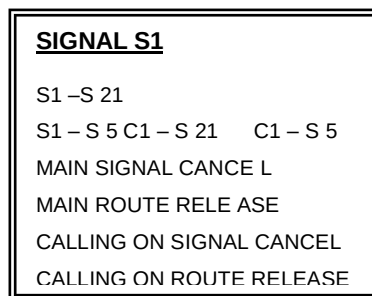
4.1 **ELECTRONIC INTERLOCKING (EI) SYSTEM INDICATIONS:**

In PC there are two system indications. Green indication mentioning the On- line system and the Red indication mentioning that the system is in power off condition. At this station only central system is provided.



4.2 **SIGNAL OPERATION**

4.2.1 To Take-Off a Signal on the desired route the SM on duty needs to track the mouse pointer over the concerned Signal on the VDU, after clicking by the left button of the mouse a pop-up menu will appear as below:



SM on duty will select the route as per the requirement by moving the mouse pointer on the appropriate menu & left clicking on the menu. It will set the route and clear the signal provided all the conditions required to clear the signal is satisfied. Similarly by following the similar procedure operation of other signals can be done.

4.2.2 **SETTING A ROUTE:**

To set a route of a signal, click on a possible route of the signal, after doing so the route gets initiated & Red-flashing indication will appear on the replacement track of the signal. Point operation is initiated as per the requirement of the desired route and Normal/ Reverse set indications will starts flashing if favorable point detection is not available. After setting

of points in the route, overlap & isolation flashing indication will be replaced by steady indication and a complete yellow 'Route set' indication will appear from the replacement track of the signal to the last track of overlap section of the route. Also the points lock indication will appear. A Point locked can be ensured from the Red Steady indication will appear near the point. Finally a Route locked Yellow Steady indication will appear on the immediate rear of the signal. Now the signal will be Taken-off. The yellow route set indication will turn to red when different track circuit portion within the route is occupied during passage of a train.

4.2.3 CONDITIONS FOR SETTING A ROUTE:

The following conditions to be ensured before setting the route by the SM. All the Crank handles of the required route related points to be in Key IN condition.

4.2.4 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. After clicking by the left button on the mouse a pop-up menu will appear. Click on the cancellation menu (Main/ Calling on) of the concerned signal, the signal will immediately go to 'ON' aspect, after doing so click on the Route release menu the route locked indication will start flashing for 120 sec & the Emergency Route Release Indication (RTREL UPKE as the case may be) will flash for the entire time interval. After the completion of 120 sec, the locked route will be released and veeder counter provided for the route release in the conventional Panel will change to next higher number which should be recorded by the SS/SM. Signal cancellation is possible from the VDU even if the SM KEY in conventional Panel or PC Control Key is in out condition.

NOTE :

The DN Home signal "S2" works as Semi-Automatic Signal and can be taken off in Auto mode set towards S32 (SCMN) only in Auto mode/Manual mode. The same signal can be taken off only in Manual mode towards S36 (DVD) and no longer works as Semi Auto towards S36. It is to be taken care that if the "SA2" is to be taken off towards S36, the signal is to be put in manual mode first. The Automatic working is applicable only for straight road movement only i.e., towards SCMN.

4.2.5 SHUNT SIGNAL OPERATION:

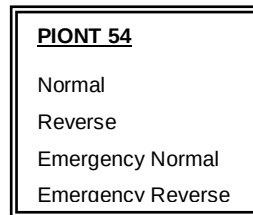
NIL

4.2.6 CALLING ON SIGNAL OPERATION:

The same procedure as main signal has to be followed as explained above. To set the signal route for CALLING ON signals SM on duty shall select the desired route and left click on the same after a train occupies the approach track circuit in immediate rear of the stop signal. The signal is cleared after a lapse of 60 seconds provided other conditions are fulfilled.

4.3 **POINT OPERATION**

To Operate the Point the SM needs to track the mouse pointer to concerned point's Normal/Reverse indications on the VDU, after clicking by the left button on the mouse a pop-up menu will appear as below:



4.3.1 **REVERSE TO NORMAL OPERATION:**

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

4.3.2 **NORMAL TO REVERSE OPERATION:**

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

4.3.3 **POINT INDICATIONS**

When the point is free a steady strip of light will appear in the point zone (In case of cross-over at both ends) indicating the point is in normal/reverse condition. When the point is operated the same strip of light starts flashing till the point is set and becomes steady when the point is set and detected. When the point is engaged in a route a Red light will appear near the point indicating that the point is locked and cannot be operated now.

4.3.4 **EMERGENCY OPERATION OF POINTS:**

When the Point zone Track circuits/ Axle counters failed without any Point lock condition by any signal routes, a point can be operated by the Emergency Point operation.

Note: Before resorting to this operation SS/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.

4.3.5 **EMERGENCY NORMAL OPERATION**

Before doing the emergency operation the Emergency Point Operation Key is to be made "KEY IN" by clicking the 'KEY IN' menu. The user name and password is to be logged in. The user name of this station is 'ECOR' and password of this station is GPT. Track the pointer to 'EMERGENCY NORMAL' menu and click. A Normal flashing indication will appear and the indication will be steady after the point is set to Normal.

After the completion of the Emergency point operation a specific veeder counter will change to its next higher number and this number should be recorded in the register provided for this purpose by the SS/SM on duty.

After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu. The user name and password is to be given for "KEY OUT" also.

4.3.6 EMERGENCY REVERSE OPERATION :

Before doing the emergency operation an Emergency Point Operation Key is to be made 'KEY IN' by clicking the 'KEY IN' menu. The user name and password is to be logged in. The user name of this station is 'ECOR' and password of this station is GPT. Emergency reverse menu to be clicked. Track the pointer to 'EMERGENCY REVERSE' menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to reverse.

After the completion of the Emergency point operation a specific veeder counter provided in the Domino Panel will change to its next higher number and this number should be recorded in the register provided for this purpose by the SS/SM on duty.

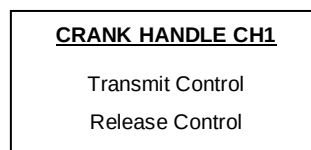
After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu. The user name and password is to be given for 'KEY OUT' also.

4.4 CRANK HANDLE CONTROL OPERATION:

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



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



To Transmit the Crank Handle KEY to the field personnel SS/SM on duty has to click transmit control menu. After transmission the 'KEY IN' indication will start flashing, now the KEY can be extracted from the RKT at site. After extracting the key from the RKT, the 'KEY IN' indication will disappear.

When the Manual point operation is over, after putting the Siding control key in the RKT, 'KEY IN' flashing indication will appear on the VDU, Now the SS/SM on duty has to Release the control for the Steady indication by clicking release control menu.

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

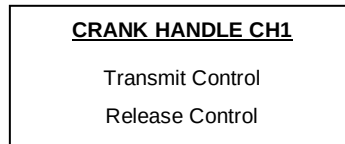
4.4.1 CRANK HANDLE OPERATION (IN ROUTE LOCKED CONDITION):

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, SS/S.M 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 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 on duty has to click transmit control menu. After transmission the 'KEY LOCKED' (Red) indication will start to flash for 120 seconds & 'KEY IN' remains steady. After a lapse of 120 seconds the 'KEY LOCKED' indication will vanish & 'KEY IN' indication will start to FLASH. After extracting the key from the RKT, the 'KEY IN' indication will disappear. When the Manual point operation is over, after putting the emergency crank handle key in the RKT, flashing 'KEY IN' indication will appear on the Panel, Now the SS/SM on duty shall Release the control for the Steady indication by clicking 'RELEASE CONTROL' menu.

After the completion of the Emergency point operation a specific veeder counter provided in the Domino Panel will change to its next higher number and this number should be recorded in the register provided for this purpose by the SS/S.M on duty.

5.0 **RESETTING OPERATION FOR AXLE COUNTER IN AUTO SECTION:**

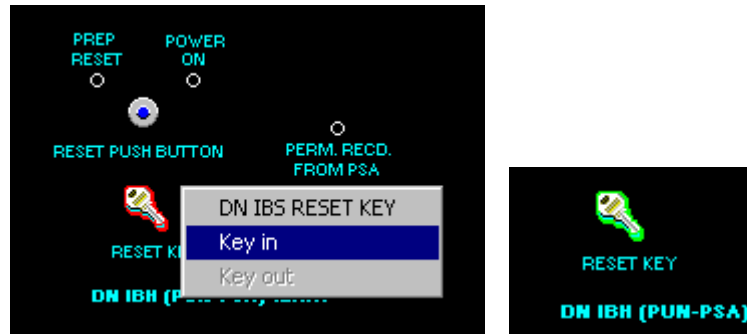
Separate Multi section Digital Axle counters are provided in Auto section between (GPT-DVD) UP and DN lines in five portions. The occupation and clearance of the block section are indicated on the VDU by RED & Yellow Indications. During Axle counter failure at first portion and last portion of the axle counter portions on UP or DN line it is automatically resetted in the VDU after arrival of the train if any portion of axle counter section does not show clear indication at the other three portions and the section occupation continued to glow, SS/SM on duty shall initiate hard re-setting procedure for the Auto section before initiating resetting procedure, SS/SM on duty shall ensure that the train which has left arrived completely at receiving station and Auto section is clear (free) trains. If the track indication of that particular Auto section is showing 'Red' then the following actions are to be performed by the SS/SM on duty at GPT/DVD/SCMN.

Resetting of MSDAC shall be carried out at Dispatch end, but before that permission shall be obtained from the receiving station.

After getting the permission from receiving station "Perm. Recd from DVD/GPT" indication will appear above the ACK button icon



- On duty SS/SM at GPT need to track the pointer to the “ Axle Counter Reset key ” icon and click left button of the mouse and select “KEY IN” option.



After performing ‘Key in operation’ SS/SM on duty move the Curser pointer near to the Axle Counter Reset push button icon, and click left button of the mouse and select “Reset”. In VDU . Concerned counter will change to the next higher number. After completion of reset operation first train shall be piloted out. On clearing of the piloted train over Auto section MSDAC zone, axle counter will get reset and Axle counter zone clear indication will appear on VDU



The Piloting out is mandatory for completion of Auto section axle counter reset operation. Number changed for resetting shall be recorded in the TSR and in the register provided for this purpose.

6.1 SIGNAL INDICATION:

The aspects of the signals as obtained at any time are shown on the VDU on the signal indication alongside of the track. The aspect indications of signals are as per the aspect conditions at site on VDU.

6.2 POINT FAILURE INDICATION (RED)/POINT FAILURE BUZZER/POINTS FAILURE MUTING ICON (RED WITH WHITE DOT)

Whenever there is failure of point due to non-setting point failure indication flashing appears near the point along with the point failure buzzer. The buzzer stops when the point failure acknowledgement icon is clicked, but the flashing light shall continue to glow. The flashing light at the concerned point zone can identify the defective point. After the failure is rectified, the flashing light will disappear.

6.3 EMERGENCY ROUTE RELEASE COUNTER

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

6.4 TRACK CIRCUIT

All the running lines are track circuited. In addition there are short length track circuits in advance of Advanced Starter Signals and Home signal in both the directions are also provided. For Calling-on signals (91M Rail length) track circuits are also provided in rear of the Home signals in both directions. From last trailing point/fouling mark in either side of Yard to Advanced.

Starter Signals are also track circuited. Indications for the above track circuits are available on VDU at SM's office. Normally the panel is blank except point and Block section indications for the above track circuits/ Axle counters are available on VDU at SM's office. When a signal is cleared the route indication ' White' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

6.5 AXLE COUNTER:

- (i) Multi section Digital Axle counters have been provided in the Auto section between GPT-DVD section for UP and DN lines for monitoring clearance/occupancy of the Auto section.
- (ii) Digital axle counters are also provided between GPT-JGPM sections and at MYD 'D'-GPT for monitoring clearance / occupancy of the Block section for verification of Last vehicle (LVCD).
- (iii) High Availability Single Section Digital Axle Counters are provided between GPT-SCMN section on Main Line and by pass lines on both UP& DN directions.

SECTION DVD-GPT(MULTI SECTION DIGITAL AXLE COUNTER)

Multi section Digital Axle counters are provided between DVD-GPT on DN line one just beyond DN Advance Starter of DVD and 180 Mtr. beyond DN Home signal between DVD-GPT with redundancy.

SECTION GPT-DVD (MULTI SECTION DIGITAL AXLE COUNTER)

A pair of Digital Axle Counters is provided between GPT-DVD on UP line one just beyond UP Advance Starter of GPT station and 180 Mtr. beyond UP Home signal between GPT-DVD with redundancy.

For Section SCMN-GPT(Main Line)

High Availability Single Section digital Axle counters (HASSDAC) are provided between SCMN-GPT Main line on both UP & DN lines for monitoring clearance/ Occupancy of the block section for verification of last vehicle (LVCD). The total block section is divided in to one axle counter track circuit on both UP & DN lines 32XT (GPT) and 63XT (SCMN) respectively.

For Section SCMN-GPT(Bypass Line)

High Availability Single Section digital Axle counters (HASSDAC) are provided SCMN-GPT bypass line on both UP & DN lines for monitoring clearance/ Occupancy of the block section for verification of last vehicle (LVCD) . The total block section is divided in to one axle counter track circuit on both UP & DN lines 71XT (SCMN) and 21XT (GPT) respectively.

SECTION GPT-JGPM (LVCD)

A pair of Digital axle counter is provided between GPT-JGPM with redundancy.

SECTION MYD 'D' CABIN-GPT(LVCD)

A pair of Digital axle counter is provided between MYD'D' CABIN-GPT with redundancy.

SECTION MYD 'A' CABIN-GPT (LVCD)

NIL

SECTION DVD-GPT(MULTI SECTION DIGITAL AXLE COUNTER)

Multi section Digital Axle counters are provided between DVD-GPT on DN line one just beyond DN Advance Starter of DVD and 400 Mtr. beyond DN Home signal between DVD-GPT with redundancy.

SECTION GPT-DVD (MULTI SECTION DIGITAL AXLE COUNTER)

A pair of Digital Axle Counters is provided between GPT-DVD on UP line one just beyond UP Advance Starter of GPT station and 400 Mtr. beyond UP Home signal between GPT-DVD with redundancy.

SECTION GPT - DVD (MSDAC)

Multi section Digital Axle counters with redundancy is provided between GPT - DVD on UP & DN lines. The total Block section is divided into five Axle counter track circuits on DN line DVD-GPT i.e., 50XT, 763/22XT, (763/22T1 & 763/22T2 for LC gate), 765/2XT, 766/4XT & 768/2XT upto the signal no: SA 50 DN advanced starter to DN home signal S-1 and UP line from GPT –DVD i.e., 36XT, 768/39XT, 766/13XT, 765/5XT & 763/25XT in between UP advanced starter of GPT SA 36 to UP home of DVD S41.

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

LVCD SECTIONS:

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 S-34 of section GPT - JGPM shall not come to 'OFF' and the concerned instrument shall remain locked in last operated position for section GPT – JGPM.

A resetting arrangement for resumption of the system, in case of failure of both the Axle Counter, has been provided in the SS/SM office of the adjacent Block stations. After being assured by both the SS/SM that the last vehicle has arrived completely at the receiving station, the resetting procedure shall be initiated after exchanging Private Number vide G&SR 4.17, 4.17.01.

NOTE: Redundancy of all LVCD between GPT-SCMN main and bypass line Axle counters is provided. Before taking off reception and dispatch signals for Up and Down directions the SM on duty should ensure that the entire route including overlap portion is clear of all obstructions by observing the Track indication/Axle counter indication. The indication of track circuit/Axle counter will exhibit Red Light when track is occupied and White light when track is clear. There will be no track indication when any route is not set.

7.0 STATION MASTER'S VDU CONTROL KEY:

The VDU is provided with Station Master's lock up key to prevent any unauthorized operation of the VDU. The Station Master on duty is the only authorized person to operate the VDU. The key locks the VDU and no operations are possible. In case of emergency, signals can be put back to danger by operating concerned signal button and signal cancellation button without SM's key also. However the provisions of SR 3.36.02 shall be followed while replacing signals also.

7.1 CRANK HANDLES:

When any point fails to operate normally by the route setting operation or through the concerned point button through VDU. It is inevitable to operate the points with crank handle. Station Master on duty shall personally ensure clamping and padlocking all facing and trailing points enroute. Crank handles are interlocked with signals and interlocking system. The crank handles can be released through pop up menu and is explained in Appendix 'B' in this SWR. The White indication suggests that the crank handle key is in its interlocked position of the VDU. This is called "Crank Handle Key 'IN' indication.

The Red indication suggests that the crank handle key is locked and not free for extract from RKT. This is called 'Crank handle key locked' indication. The crank handle is normally kept in a locked box fitted min panel room and the key is with SM on duty. This crank handle is common to all points and is to be taken along with CH key for manual operation of point. For extracting CH key from RKT SM has to click the crank handle operation pop up menu. Relevant crank handle push button and group TRANS button simultaneously. The light white light besides the CH button starts flashing. After extraction of CH key from RKT at location box flashing white light disappears. On extraction of CH key from RKT, the points in that particular group can not be operated from the VDU. After completion of point operation the CH key will be retransmitted to the station electrically by inserting the CH key in RKT in location box and turned. The white flashing indication appears on the Panel board. The flashing will be stopped and steady indication appears on clicking concerned CH icon and group release icon (White with Blackdot).

7.2 SETTING OF ROUTE AND TAKING OFF RECEPTION SIGNALS:

(S.PRABHU)
DSTE/WAT

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

For setting a route all the concerned points must be set by operation of points individually or by route setting method through pop up menu as mentioned in Appendix 'B' in this SWR. As soon as the required points are set to the required position, the concerned signal for the route will clear and a white strip of light will appear on the route confirming that the route is set and locked. The signal 'OFF' indication will appear on the VDU.

7.3 SETTING OF ROUTE AND TAKING OFF DEPARTURE SIGNALS:

For setting a particular route for departure of a train, all the concerned points must be set by operation of pop up menu as mentioned in Appendix 'B' of this SWR in the desired position or by operating signal and route button.

To take 'OFF' an advanced starter, LV section should be clear and Line clear must be obtained from the concerned Block section in advance. To take 'OFF' the UP advanced starter towards DVD, concerned Auto section axle counter must be clear upto the Home signal of GPT. The Up advanced starter signal can be taken 'OFF' only when the section is clear and also line clear has been obtained from DVD station in advance.

7.4 TAKING OFF CALLING ON SIGNAL:

Miniature color light Calling-on signal is provided below the Home signals in terms of GR.3.13(6)(b). A Calling-on signal shows no light in the 'ON' position and White light when taken "OFF". A calling-on signal, will be taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' due to failure or any other reason.

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal, occupying the track circuit (1AT, 2AT as the case may be) in rear of the Home 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 operating the pop up menu. After a lapse of 60 seconds, the Calling-on signal clears i.e a White light glows at the concerned Calling-on signal on the VDU.

7.5 REPLACEMENT OF SIGNALS TO ON:

Signals are replaced to 'ON' automatically by the operation of the first track in advance of 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 respective signal pop up menu operation provided in VDU shall be done.

7.6 INTERLOCKING OF SIGNALS/POINTS:

All running line points are fitted with point machines which have in built locking and are electrically detected by the relevant Home signals and starters.

7.6.1 The Block instruments cannot be made to normal unless the respective Home Signal is put back to 'ON' and the respective block section monitored by axle counter is clear of trains.

7.6.2 Signals once taken OFF can be put back to ON in case of emergency by the respective signal popup menu operation provided in VDU even when the VDU is locked up with Station Master's key.

8.0 PILOTING OF TRAINS IN TO THE STATION YARD:

Whenever Home signal becomes defective, trains can be admitted by taking off calling-on signal. When both home and calling-on failed, then the trains will be piloted 'IN' in terms of SR 3.69.3(a)&(c).

The SM on duty shall nominate a clear line and shall set the nominated route correctly from the VDU or shall advise the TPM on duty at station to set the nominate route \ with the help of crank handle during failure of points. The TPM shall set the facing and trailing points and clamp and padlock the same under the super vision of SM on duty at station in both the cases. Before handing over the document SM shall obtain line clear for the train from Block section in advance. Then the SM on duty shall then hand over the written authority (T/369 (3b) to the TPM for "piloting IN" the train. While going towards home signal, the TPM shall check that the points have been correctly set, clamped and padlocked. After the train has been brought to a dead stop at the foot of the home signal the TPM shall hand over the PILOT memo to the loco pilot board the engine and display proceed hand signal to pass the defective home signal.

NOTE:

- (1) The station master on duty shall personally supervise the correct setting, clamping and padlocking of both end points for admission of a train.
- (2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty till such movement is either completed or alternatively cancelled.

8.1 PILOTING OF TRAINS OUT OF STATION YARD:

When starter signal has become defective, the SM on duty shall set the points correctly from the VDU or advise the TPM to set the concerned points correctly for the outgoing train with the help of crank handle. The TPM on duty shall clamp and padlock both the facing and trailing end points under supervision of SM on duty in both the cases.

The SM on duty shall then authorize the TPM on duty to hand over the pilot memo T/369(3b) along with other authorities if any to the loco pilot of the train. Thereafter, he shall display proceed hand signal at the foot of the starter signal vide subsidiary rule 3.70.01.

Incase advanced starter signal becomes defective such signal shall be passed on the written authority on the form T/369(3b). proceed hand signal shall not be displayed vide subsidiary rule 3.70.02. the TPM shall hand over the pilot memo in form T/369(3b) to the loco pilot after the train stopped along with the paper line clear ticket.

NOTE:

- (1) The station master on duty shall personally supervise the correct setting ,clamping and padlocking of both end points for admission of a train.
- (2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty till such movement is either completed or alternatively cancelled.

9.0 VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAINS INTO THE YARD

(S.PRABHU)
DSTE/WAT

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

In the station yard, a route on the running line comprises of entrance, berthing and dispatch portion of the yard and this portion of the yard should be clear of any obstruction for the passage of any train or for any other movements. The clearance of the route including overlap must be ensured by the Station Master on duty personally through Luminous indications of the track before any movement of trains are permitted on the concerned route subjected to the other conditions such as locking of points etc.

10.0 CRANK HANDLING EMERGENCY OPERATION OF POINTS:

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

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.

11.0 EMERGENCY OPERATIONS:

The following are the instructions for emergency operations.

12.0 CANCELLATION AND VEEDER COUNTERS:

For the purpose of the emergency operations there is an emergency Route cancellation Pop up menu(provided in VDU) and also there is a veeder counter for counting emergency operations involving the concurrent operation of the emergency route cancellation operation. A yellow indication will appear below the signal indicating that the timer has started operating and after lapse of 120 seconds the desired route will be released provided all other conditions are favorable for the route release. The veeder counter registers the number of such emergency operations performed for such emergency cancellation and the Station Master on duty shall specify the cause for such usage giving the particulars of cause and the time of operation as related to a particular train etc. in the train signal register. The detailed operation instructions are as follows:

12.1 EMERGENCY OPERATIONS CANCELLATION THE LOCKING OF POINTS NOT RELEASED AFTER THE PASSAGE OF THE TRAIN FOR WHAT EVER REASON:

If the locking of the route does not get released for one reason or the other after passage of the train it is necessary to take recourse to the following emergency operations

a). Firstly, it must be ensured that the signal is in the ON position

b). Operation as detailed in Para 4.1 item no.10 to be followed.

13.0 LOCKING OF RELAY ROOM:

The Relay room should be kept locked with a double lock.(Two independent locks) as necessary vide OM 13.16, which can be opened only after both keys are used. one key of the lock shall be kept with the Signal Maintainer of the section and the key of the other lock with Station Master on duty. Whenever required, the key in the custody of the Station Master shall be given to the maintainer, after completion of the work, the maintainer will return the key to the Station Master.

The details of the transaction should be properly recorded in the relevant register at the station duly signed by Station Master on duty and the maintainer concerned

14.0 MAINTENANCE OF S&T INSTALLATION AND ADHERENCE TO MAINTENANCE SCHEDULES:

- i) Regular maintenance of S&T installations and adherence to the schedules of maintenance is also the mandatory schedules of testing of points, track circuits, point machines, level crossing gates, the associated interlocking apparatus i.e., cables and finally the interlocking functional tests is a must for the safe and satisfactory working of those installations at this Station.
- ii) The tests, checks and replacements etc. including overhauling shall confirm to the schedule of maintenance as indicated in the signal engineering manual as also in the current and extent instruction / circulars on the subject.

15.0 PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF A SIGNAL AND INTERLOCKING INSTALLATIONS:

In case of failure of any interlocking gear at the station, the failure report should be communicated by the Station Master on duty through a memo to the Sectional Maintainer and the Signal Engineer of the Section and others as per G& SR 3.51.04 and 3.68.04 and document all such transactions.

15.1 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

Before declaring a Signal as defective the setting of point on the route to which it applies shall be inspected by the Station Master on duty in term of SR 3.68.04(c).

15.2 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

After receipt of this information, the sectional maintainer shall attend to the failure after giving a disconnection memo. After rectification of the fault the sectional maintainer shall give a reconnection memo detailing rectification. Thereafter the Station Master of duty shall personally check the 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 gear in terms of SR 3.64.04 (c) and (d).

16.0 PROCEDURE FOR CARRYING OUT PLANNED MAINTANANCE WORK:

Whenever any normal maintenance or special works for heavy renewals etc., are involved, these works should be pre-planned by the signal & Telecommunication field staff and the

Inspector of the section should give to the Station Master in writing “Advance Intimation” about this planned work in terms of GR 15.08.01.

17.0 EMERGENCIES:

Not with standing anything contained in the aforesaid Paras, when an equipment is found to be defective and unsafe for passage of trains, the Signal and Telecom. Staff shall at once suspend the working of such equipment and the associated installation and issue a “Suspension Memo” explaining the seriousness of the defect or damage to the interlocking installation to the Station Master and obtain SM’s acknowledgement. After this, the usual practice of issuing disconnection memo and reconnection memo can follow and the Station Master must promptly act on such messages and take adequate precautions treating the S&T installations as defective and pass trains over the affected interlocking gears according to extant instructions as contain in GR & SR 3.77.

18.0 PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNALS AND POINTS AND USE OF CRANK HANDLE.

18.1 When crank handle key is removed from RKT for operation of the defective motor operated points, the responsibility for its safe custody rests with the Station Master on duty, till it is replaced back to RKT.

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

Whenever an emergency Crank handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the concerned Points will be treated as defective till the Emergency Crank Handle is returned back to the Station Master on duty will before parting with the emergency crank handle either for attending failure or for maintenance work by Signal Maintenance Officials, the Station Master on duty ensure that the reception and departure Signals are put back to ON position. The Points for the affected lines shall be treated as Non-interlocked. The Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR’s. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.

18.4 The Emergency Crank Handle Register is to be maintained vide OM 2.19 (j) by the Station Master on duty wherein the particulars of usage of the Emergency Crank Handle must be recorded.

19.0 SUSPENSION OF LAST STOP SIGNALS

- 19.1** When the Block Instrument is suspended with its handle in 'TRAIN GOING TO' position for whatever reason, the concerned Last Stop Signals controlled by the Block Instrument must be treated as suspended and trains shall be worked on PLCT/Piloted out.

19.2 AUTOMATIC BLOCK WORKING BETWEEN GPT-DVD & GPT-SCMN**STATIONS:-**

- 19.3** The block section between DVD-GPT has been divided into 4 automatic block sections i.e., 1XT, 3XT, 5XT, 7XT in UP line and 2XT, 4XT, 6XT, 8XT in DN line and are controlled by stop signals i.e., DAS-2,DAS-4,DAS-6,DAS-8 in DN direction and UAS-1, UAS-3, UAS-5, UAS-7 in UP direction. The automatic stop signals are controlled by the track section. The signal aspects are controlled by the signal aspects ahead accordingly.
- 19.4** The block section between GPT-SCMN has been divided into one block section and is controlled by HASSDAC axle counter both in UP and DN lines. Also the track circuits D62T1, D62T2, D63T3, D62T4 and 63T1, 63T2, 63T3 are in redundant for the axle counter in both UP & DN lines accordingly.
- 19.4** For GPT-SCMN section main and By-pass lines, track circuits are provided as redundant to HASSDAC in the auto block section. If either track circuit or HASSDAC fails buzzer appears on the VDU.
- 19.4** Multi section Digital Axle counters are provided on UP and DN lines between GPT-DVD Double line for Auto section. The occupation and clearance of the axle counter section are indicated on panel by 'Red' and 'Yellow' lights.
- 19.5** If any Block proving Axle counter section fails, the Last stop signal at the rear station cannot be taken 'OFF' and Block instrument at advance station cannot be turned to "Line Closed" position after arrival of a train and in such case, resetting of last vehicle checking device is to be resorted to in either section.
- 19.6** Even after completion of reset operation, LVCD Axle counter will show clear only if next train is passed. The next train is to be piloted.
- 19.7** No train should be allowed on signal to leave a station in any particular direction unless:- track clear indication is available for the relevant axle counter track circuited portion and Last stop signal is not taken 'OFF'.
- 19.8** A resetting arrangement for the resumption of the track circuit by means of axle counter under failure condition through both the SM's 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 at the receiving station and is certified in this respect by the SM at the receiving station through exchange of Private Number.

20 RESETTING OF LV DIGITAL AXLE COUNTER WHEN FAILED FOR GPT-JGPM & GPT-MYD:

After complete arrival of the train, if the Axle counter of the section does not clear or Axle counter section free indication (G) does not appear on the panel the receiving station SM

shall appraise the sending station SM through telephone for resetting giving 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 has entered in to the section arrived complete or not. And if arrived fully shall so intimate authenticated by exchanging by Private Number with the sending station

As Digital Axle counters are provided as LVCD in Block section between GPT-JGMN, GPT-MYD, resetting is to be done by both of sending and receiving end individually (no cooperation or permission is required from the other station)

The status of the section LVCD i.e Clear (Green), occupied (Red), Preparatory reset (Green) are provided in the reset box/VDU.

The procedure to be followed for re-setting by both of sending end and receiving end individually is as follows. Insert SM's LV reset key turn right Press LV reset button provided on the panel/VDU Release SM's LV reset key and reset button Turn left the SM's LV reset key and remove it.

The Axle counting system obtains preparatory reset state and preparatory reset indication (Green) glows on the panel.

The counter reading increases by one count after a gap of 5 seconds approximately.

The counter reading should be recorded. One train is to be piloted in the section to make the system normal. The SM on duty shall record it in train signal register the resetting operation giving details of train number, time, Private Number exchanged with SM of sending station giving reasons for the resetting operation.

If the Axle counters functioning properly now, then the Block section Clear (Green) indication will appear on the panel and the concerned Block working will be normalized.

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

21 CORRECTING TIME IN STATION CLOCK

The station Master shall set the time in his clock according to the time signal given by the section controller on duty at 16.00 Hrs every day according to GR and SR 4.01.01 and 4.01.02.

22 POWER SUPPLY:

Procedure laid in para 4.3 in main body of SWR shall be followed.

23 TELECOMMUNICATIONS:

Same as para (5) in main body of this SWR

24. Resetting procedure of HASSDAC between SCMN-GPT Main line & Bypass line:-

HASSDAC is provided between SCMN-GPT main line and Bypass line in both UP & DN directions. If the system fails i.e., when occupied (RED LED) lits, then manual resetting of axle counter procedure are to be followed.

After complete arrival of train, if the Last vehicle axle counter of the does not clear or Last vehicle Axle counter section free indication and Green does not appear in the panel, The receiving station SM shall apprise the sending station SM through telephone for resetting

(S.PRABHU)
DSTE/WAT

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

giving 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 whether the last train that entered into the section has arrived or not. And, if arrived fully shall so intimate authenticated by exchanging

private number with the sending station.

The status of the section LVCD i.e. Clear (Green) occupied (RED), preparatory reset (Green) and power on the indications (white) are provided in the reset box.

The procedure to be followed for resetting by both of sending end and receiving end individually is as follows.

On being advised by SM of GPT station, SM of SCMN station inserts the key in the Reset Box, turns right and presses both the key and the Push Button (RED) simultaneously with the SM of GPT. The Counter on the Reset Box at GPT station and SCMN station registers the next higher number and after five seconds miniature green preparatory Reset indication appears on the Reset Box both at GPT and SCMN. The step by the step procedure shall be followed as given in “b” to “i”.

- (i) SM GPT station & SM SCMN station shall then insert SM's LV reset key and turn right.
- (ii) Press LV reset button provided on the panel.
- (iii) Release SM's LV reset key and remove it.
- (iv) The system obtains preparatory reset state and preparatory reset indication (Green) glows on the panel. The counter reading increases by one count after a gap of 5 seconds approximately.
- (v) The counter reading should be recorded.
- (vi) One train is to be piloted in the section to make the system normal.
- (vii) The SM on duty shall record it in the Trains 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 operations.
- (viii) If the axle counters functioning properly now, then block section cleared indication “G” will appear on the panel and the concerned Block working will be normalized.
- (ix) If the LV axle counter section indication does not appear ‘Green’ and continues to show ‘RED’ indication, the concerned block section shall be suspended and failure intimation to be given to sectional signal Maintainer JE/SE/ (signal) for early rectification.

Note:- When reset applied by both stations the preparatory reset indication appears on the reset box, when both systems in the HASSDAC are accepted the reset. If only one system accepts reset and the other system does not, preparatory indication does not appear at reset box only preparatory indication flashes when one system gone into preparatory state.

25. Resetting procedure of MSDAC in auto signaling between GPT-DVD section as follows;-

Resetting procedure of preparatory mode reset process with co-operation:

When the MSDAC track section on the UP line shows occupation and it is to be reset, the SM/GPT seeks permission from SM/DVD.

SM/DVD inserts and turns the permission key on the reset panel and presses the permission button after confirmation that the section is clear. Simultaneously, SM/DVD turns on the reset key on the VDU panel and then the permission is sent to GPT.

After receiving the permission from DVD, the SM/GPT inserts and turns the reset key and presses the reset button. After the acceptance of reset process quick buzzer is observed and the counter is implemented by one on the reset panel.

Now, the track section goes in to the preparatory state and after passage of a pilot train, the track section gets clear.

26. Working of automatic fire detection and alarm system

- In case of any alarm-Zone number on the LCD display can be seen.
- Note down the zone No. and VDU display name, by referring display chart.
- Then open the key pad and press the "OFF" button and enter the code 1111 (1 digit four times).
- Automatically it will get reset.
- Once you find the zone number rush to that particular area where the detector gives alarm.
- The movement the detection 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 which is present Inside the key pad together for few seconds. This will enable you to hear the VDU alarm.
- To reset the VDU press "OFF" button and enter the code 1111 (1 digit four times).
- If the power fails on this will enable us to see the red Indicator on the VDU.
- In case of failure in power and if the battery is fully charged, the VDU can function effectively as long as the charge in the battery is present.

AUTO DIALLING

If you hear alarm from the VDU, this system will dial the railway auto telephones as assigned to all concerned.

APPENDIX 'C'

Rules for Working of Anti-collision Device (Raksha Kavach)

NIL

(S.PRABHU)
DSTE/WAT

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

APPENDIX 'D'**DUTIES TO BE PERFORMED BY THE STAFF:****1.0 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. 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).
- vi) He shall promptly attend to accidents and report them.
- vii) He shall supervise the work of safe working staff and conduct night inspections and report lapses of staff working under him.

2.0 STATION MASTER (Block/Log) & (VDU):

- i) He is responsible for trains passing during his shift.
- ii) He shall promptly bring to the notice of SM incharge all irregularities and accidents in course of his shift duties.
- iii) During the absence of SM I/C, the duties of the Station Master will devolve on him.
- iv) He shall follow SR 3.68.01(c) and (d) SR 14.07.1 and OM Chapter-2 (2.02) (d) & (e).
- v) His special attention is drawn to Chapter-2 of G&SR 1976 and GR 5.01 to 5.08 with relevant SRs.
- vi) As an assistant to SM I/C, he shall carry out the instructions given from time to time.

3.0 TRAFFIC POINTS MAN :

- i. He shall work under the orders SM on duty.
- ii. He shall couple and uncouple vehicles under the supervision of SM.
- iii. He shall watch and guard the packages and other Railway property lying in the Station premises.
- iv. He shall report any irregularities coming to his notice.
- v. He shall do loading and unloading of parcels, smalls and Guard's boxes. He shall do piloting IN and OUT.
- vi. He shall deliver any official message to the proper person/office. He shall carry out any other duties entrusted to him by the SM on duty.
- vii. He shall follow OM Chapter-2.

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

APPENDIX'E'**ESSENTIAL EQUIPMENT**

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

Sl. No	Description	Quantity
i)	Detonators	10
ii)	LED based Tri Colour flashing torch.	3(1 Spare)
iii)	Hand Signal Flags	3(1 Spare)
iv)	Safety chains with Pad locks	---
v)	Clamps with Padlocks	12
vi)	Skids	2
vii)	Wedges	2
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

APPENDIX 'F'**APPENDIX 'F' TO STATION WORKING RULES OF GOPALAPATNAM****RULES FOR WORKING OF OR STATIONS, HALTS, IBH, IBS AND OUTLYING
SIDINGS:**

A passenger halt is existing at Marripalem at Km.874.2 F/HWH between GPT-VSKP and another flag station is existing at simhachalam at 871.1 from HWH between GPT and SCMN. All passenger trains will take a halt as per the duration specified in working time table.

The guards and LPs are responsible to maintain schedule halt and start their train.

(S.PRABHU)
DSTE/WAT

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

APPENDIX- 'G'

GOPALAPATNAM 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