EAST COAST RAILWAY
WALTAIR DIVISION

STATION WORKING RULES OF PENDURTI STATION (BROAD GAUGE)

No : WTF/5/SWR/PDT

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

1.1

i] Station working diagram No.SI/WRD/23084 ALT'D'
ii] CSTE/E.Co.Rly/DRG No.SI-23084 ALT'D'
iii] Date upto which corrected :

2. DESCRIPTION OF THE STATION:

2.1 GENERAL (LOCATION)

i]	Name of the Station :	PENDURTI [PDT]
ii]	Class of Station :	'B'
iii]	Section:	HOWRAH-CHENNAI
iv]	Double / Single line	Multiple line
v]	Electrified /Non-electrified	Electrified
vi]	Gauge BG/MG/NG	BG
vii]	Railway	East Coast Railway
viii]	Route	'B'.
ix]	Situated at KM	861.847 KM
x]	From	HOWRAH
xi]	No. of Cabins	NIL.Centrally operated VDU.

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

a]	Adjacent Block Station	Distance	Direction
	KOTTAVALASA	8.45 km	HWH END
	SIMHACHALAM NORTH	7.775 km	VSKP END
b]	Provision of IBS: Nil		
c]	Automatic Signals: Nil		
d]	D K Stations / Outlaying : Nil		

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

Between Stations	The Point from which the "Block Section" Commences	The Point at which "Block Section" Ends
PDT-SCMN		

1) Double Line	The Advance Block section on up line commences at Up last Stop Signal No 41. of PDT.	And Terminates at Up First Facing point of SCMN
	The rear block section on Down line commences at Down last stop signal of SCMN.	And terminates at BSLB on Down line of PDT.
2) Single Line	The block section commences at Up last Stop Signal No.45.	And terminates at Down last stop signal of SCMN.
3).Middle line	The block section commences at Up last Stop Signal No.43	And terminates at Dn last stop signal SCMN.
PDT-KTV		
1) Double Line	The advance Block section commences from Down Last Stop signal No 44 on Down line of PDT.	And Terminates at BSLB on Down line of KTV at PDT end.
	The rear block section commences at Up last stop signal of KTV on Up line	And terminates at 1st facing point on Up line of PDT at KTV end.
2) Single Line	The block section commences at Dn last stop signal No 42 of PDT.	And terminates at Up last stop signal of KTV.
3)Middle line	The block section commences at Down last stop signal No.46 of PDT.	And terminates at Up last stop signal of KTV.

2.4 GRADIENTS:

		From	**To**		
PDT-KTV	**4TH LINE & KK line**	0.000mts	1250 mts	1250 mts	1 in 530 Raising
"	"	1250 mts	2600 mts	1350 mts	1 in 700 Raising
"	"	2600 mts	3900 mts	1300 mts	1 in 320 Raising
"	"	3900 mts	4700 mts	800 mts	1 in 260 Raising
"	"	4700 mts	into section	-	1 in 260 Raising
	DN LINE	0000mts	325 mts	325 mts	1 in 455 Raising
"	"	325 mts	526 mts	201 mts	Level
		526 mts	900 mts	374 mts	1 in 415 Raising
		900 mts	1037.5 mts	137.5 mts	1 in 430 Raising
		1037.5 mts	1263.9 mts	226.4 mts	1 in 430 Raising
		1263.9 mts	1652.42 mts	388.52 mts	1 in 500 Raising
		1652.42 mts	1753.92 mts	101.5 mts	Level

		1753.92 mts	1982.55 mts	228,63 mts	1 in 150 Raising
		1982.5 mts	2200 mts	217.45 mts	1 in 236 falling
		2200 mts	4100 mts	1900 mts	1 in 300 Raising
		4100 mts	In to section		1 in 340 Raising
	UP LINE AND MIDDLE LINE	0000mts	671 mts	671 mts	1 in 500 Raising
"	"	671 mts	976.5 mts	305.5 mts	Level
"	"	976.5 mts	2413.2 mts	1436.7 mts	1 in 605 Raising
"	"	2413.2 mts	5320 mts	2907.2 mts	1 in 300 Raising
"	"	5320 mts	In to section		Level
PDT-SCMN	**4TH LINE & KK line**	0000 mts	1150 mts	1150 mts	1 in 500 Falling
"	"	1150 mts	1700 mts	550 mts	1 in 625 Falling
"	"	1700 mts	1800 mts	100 mts	Level
		1800 mts	2000 mts	200 mts	1 in 200 Falling
		2000 mts	2400 mts	400 mts	1 in 597 Falling
		2400 mts	3100 mts	700 mts	1 in 550 Falling
		3100 mts	4000 mts	900 mts	1 in 1860 Raising
"	"	4000 mts	Into section	-	Level
	UP LINE AND MIDDLE LINE	0000 mts	3002.3 mts	3002.3 mts	1 in 500 Falling
"	"	3002.3 mts	6500 mts	3497.7 mts	Level
"	"	6500 mts	Into section		1 in 300 Raising
"	**DN LINE**	0000	1582 mts	1582 mts	1 in 454 Falling
"	"	1582mts	1827.8 mts	245.8 mts	Level
		1827.8 mts	2400 mts	572.2 mts	1 in 362 Falling
		2400 mts	2600 mts	200 mts	1 in 336 Falling
		2600 mts	3100 mts	500 mts	1 in 700 Falling
		3100 mts	3800 mts	700 mts	Level
		3800 mts	Into section		1 in 1277 Falling

2.5 LAYOUT:

1.(A) Number of Running Lines : 8(Eight) :-

S.No	Running Lines	Name of the Line	CSR	Whether Electrified/Non-Electrified
i.)	Line No.1	Common Loop	694 Mtrs	Electrified
ii.)	Line No.2	Up Main	743 Mtrs	-do-
iii.)	Line No.3	Middle Line	738 Mtrs	-do-
iv.)	Line No.4	Middle Loop	696 Mtrs	-do-
v.)	Line No.5	Common Loop	725 Mtrs	-do-

vi.)	Line No.6	Down Loop	743 Mtrs	-do-
vii.)	Line No.7	KK Line	807 Mtrs	-do-
viii.)	Line No.8	KK Loop	735 Mtrs	-do-

2.5.2 NON RUNNING LINES AND THEIR CAPACITY IN CSR
(A)

S.No	Name of the Siding	Length In Mtrs	Whether Electrified / Non-Electrified
1	Goods Siding	125.58(DS to DS)	
2	Sleeper Factory Siding	200	
3	APSWC Siding	1118	

PLATFORMS :

i.) A low level passenger platform of 351.73X9.144Mts is provided on Line No.1.

ii.) A low level island passenger platform of 350.52X9.45 Mts is provided between Line N0.2&3.

iii.) A rail level island passenger platform of 389.23X9.144 Mts is provided between Line No.4 & 5.

iv.) A High level island passenger platform of 600mX10.5m is provided between Line No.7 & 8.

v.) A Goods platform of 122.2M x 15.84M is provided for Goods siding.

DESCRIPTION OF SIDINGS :

a.) Goods Siding:

The goods siding with CSR of 125.58m takes off from common loop (Line No.1) at KTV end of the yard. The siding further extended towards KTV for a distance of 200m and terminates into dead end and named as sleeper factory siding. No isolation between goods siding and sleeper factory siding is provided. Siding entrance point and corresponding derailing switch at south end of the siding are coupled operated by an arc lever provided at site. Similarly siding entrance point and corresponding point in siding at north end are coupled and operated by an arc lever provided at site.

Both sides siding entrance points are filled with hand plunger locks which are unlocked by key R1 at South End and Key R2 at North End. Both the Keys R1 and R2 are extracted from key transmission at station through siding control switch 41 on Panel board. When siding key R1 or R2 or both are extracted all reception and dispatch signals for common loop are held locked in their normal position.

b.) APSWC Private Siding :

A private siding (APSWC) taken off from the over run line of (common loop) Line No.1 at South End of the yard.

The Siding is isolated by a derailing switch inter locked with panel through point no.72. the detailed working instructions of the siding are dealt in Appendix-H of the Station working Rules.

2.5.3

(a) **ANY SPECIAL FEATURES IN THE LAYOUT: NIL**

2.6 LEVEL CROSSINGS:

1) One 'C' class non-interlocked [manned] mid section level crossing gate situated at KM 857/27-29 between PDT-KTV.

2) One 'C' class non-interlocked [manned] mid section level crossing gate situated at KM 857/0-1 between PDT-KTV.

Details are given in Appendix 'A' of this station Working Rules.

3.0 SYSTEM AND MEANS OF WORKING:-

[a].DOUBLE LINE:

The trains are worked under absolute block system in accordance with GR 7.01(1)(a), GR 8.01(1) [a] & [b], 8.01[2],[b] GR 3.07[4],GR 3.07(5) & 3.07(7) and 3.08[4][B] relevant Part of GR chapter (XIV) and BWM chapter-V shall also be observed.

[b].BLOCK INSTRUMENTS:

SGE type double line lock and block instruments are provided in SM's office.SM on duty shall operate the block Instruments. Taking off the last stop signal is the authority for the Loco pilot to proceed in to the block section vide GR.14.08[a]. The Block Instruments are non-cooperative type Double locking arrangements shall be adopted in which one key shall be in the personnel custody of SM on duty and the other key will be held by the ESM concerned. The key with SM must be kept in his personal custody to avoid unauthorised operation of Block Instrument.

[c].SINGLE LINE (KK LINE & Middle line).

The Trains are worked under absolute block system in accordance with GR 7.01(1)(a).GR 8.01 [1] [a]&[C], 8.01[2],[b] , GR 3.07(4), 3.07(5) 3.07(7)& 3.08(4)(b) Relevant part of GR chapter(XIV) and BWM Chapter IV part II shall also be observed.

[d]. Single Line handle Type tokenless block instruments are provided for middle line and KK line in SM's Office for section PDT-KTV and PDT-SCMN vide GR 14.01 [a]. The Block Instruments shall be operated by the SM on duty as per provisions of GR chapter-XIV and Block working Manual Chapter -IV Part II . Taking 'OFF' last stop signal is the authority for the Loco pilot of a train to enter in to the concerned block section as per GR 14.08[b][iv]. These token less block instruments are provided with locking key so that SM on duty can lock the block instrument operating handle in any of the 3 positions.

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING:

4.1 This Station is provided with Standard-IIR Electronic Interlocking with Multiple Aspect Colour Light Signaling having maximum equipment of signals. The aspects and indications of the MACLS is governed by GR.3.08 (4)(b).

The Station is provided with central Electronic Interlocking (EI).All signals and points are electrically operated from the central Panel / VDU provided at SM's Office. 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). Central Panel/VDU is provided in the Station

Master's office to electrically control all signals, points, Gate key, etc., The control Panel is provided with SM's key which shall always remain in the custody of the Station Master on duty in terms of SR 3.36.03(a).

A two position switch is provided on the control panel through which SM on duty can select the mode of operation (i.e from Panel or VDU). The position of all points, signals and running lines are available in the Panel/VDU. Remainder Block collars are provided for use on push button which shall be placed on the point button and /or route button to prevent operation of the button in case of concerned line is Blocked. The VDU is provided with SM's key user name and password which shall always remain with the personal memory of the Station Master on duty .

(The details of standby operation from VDU is given under Appendix-'B-1')

(a) **CRANK HANDLE**

When any point fails to operate normally by the Route Setting operation through Panel/VDU it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals

controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual para-20.06.

CRANK HANDLE		**CONTROL POINTS**
CH-1	- - - - - - - - - - - - - - - - - - - -	52, 54,56
CH-2	- - - - - - - - - - - - - - - - - - - -	58,60
CH-3	- - - - - - - - - - - - - - - - - - - -	62, 69
CH-4	- - - - - - - - - - - - - - - - - - - -	64,67.
CH-5	- - - - - - - - - - - - - - - - - - - -	66
CH-6	- - - - - - - - - - - - - - - - - - - -	68,63
CH-7	- - - - - - - - - - - - - - - - - - - -	61,70,72
CH-8	- - - - - - - - - - - - - - - - - - - -	51, 59
CH-9	- - - - - - - - - - - - - - - - - - - -	55, 65
CH-10	- - - - - - - - - - - - - - - - - - - -	53,57

These crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle can be released by pressing common 'TRANS' push button and concerned Crank handle control push button simultaneously. When the keys are taken out no signal can be taken 'OFF' over the particular route on the points nominated by the crank handle. This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points.

The failure of motor operated points must be ensured by physical checking that there is

no obstruction. SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency Crank handle register shall be maintained by the SM on duty at the station as per Para 20.06(d) of the Operating Manual. Correct setting, clamping and padlocking of the points devolve on the SM on duty. (Details of use of Crank Handle as per Appendix-'B').

The cases of failure of motor point, it should be promptly reported to the concerned signal maintainer/signal inspector for immediate rectification.

(b) **TAKING OFF CALLING-ON SIGNAL**:

Miniature color light Calling-on signal is provided below the Home signals and below starter and intermediate starter signal 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 or for admission of train on blocked line. Before taking 'OFF' Calling on signal during failure of track circuit the route and clearance of the track over which the train will be admitted must be checked physically by SM on duty

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal, occupying the track circuit in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the Panel/VDU. The particular route on which train is intended to be received shall be set by operating the point push button and group button individually or by signal and route buttons pressing or by crank handling in the event of failure of operation of points through panel/VDU. After the route is set, the Calling On signal button (Red with White dot) shall be pressed (as the case may be) simultaneously along with the concerned route button for 2 to 3 seconds and then released. After a lapse of 120 seconds, the Calling-on signal clears i.e a Yellow light glows at the concerned Calling-on signal on the panel. Each such operation shall be recorded by the SM on duty along with the reasons to do.So.The calling-on signal route can be released after complete arrival of the train or by emergency cancellation.

NOTE:

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

IBS SIGNALS :- **Nil**

SHUNT SIGNALS

Back shunt signals Sh 8 (A-H), Sh 10 (A-H), SH 12[A-H] are provided at VSKP end and SH 7[A-H],SH 9[A-H],SH 11[A-H]are provided at KTV end for back shunting purpose, also Shunt signal No SH 19, SH 21, SH 23, SH 25, SH 27 SH 29, SH 31, SH33 are provided at VSKP end and ,SH 20, SH22, SH24,SH26,SH 28, SH30,SH32,SH34, SH36 are provided at KTV end for yard shunting .

(d) **L.C. GATE OPERATION**

Details described in Appendix-'A'.

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

Emergency point operation facility is provided to operate the point from the panel in case of failure of point controlling track circuit. A push button (Black with Red dot) for emergency point operation is provided on the top of the Panel. If such operation is necessary, the SM on duty, after ensuring that SM's point Key is 'IN' and no vehicle is standing on the concerned point zone shall press the emergency point operation button along with relevant point button simultaneously. Then keeping point button pressed,

emergency point button to be released and the point group normal button or point group reverse button is to be pressed for operating the point to 'NORMAL or REVERSE.. Every emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

(f) **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.

(g) **EMERGENCY ROUTE RELEASE INDICATION (WHITE) EMERGENCY ROUTE RELEASE BUTTON (WHITE WITH RED DOT):**

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

When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), the concerned signal must be put back to Danger by simultaneously pressing the signal cancellation button and concerned signal button.. After this first the emergency route release button (White with Red Dot) positioned on the top of the panel to be pressed after breaking seal and subsequently the concerned signal button is to be pressed releasing the emergency route release button. A white light will be lit indicating that the timer is working.

After a lapse of 120 seconds the white light along with the white strip of light will disappear suggesting that the route has been released. In case the route illumination (Yellow strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to relea se by rectifying the fault. It is to be ensured that after every emergency route release operation S&T staff shall seal the emergency route release button.
Each operation of emergency cancellation of route should be recorded in the emergency route release counter register by registering the next higher number. All such operations and the new number should be recorded in the station diary Veeder counter register and in the train signal register.

(h) **TRACK CIRCUITS**:

Line No.1 to 8 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 (7 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 Panel / 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 Panel/VDU at SM's office. When a signal is cleared the route indication ' Yellow ' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

(i) **AXLE COUNTER:**

(i) Entire Block Section between PDT-SCMN and PDT-KTV for Up, Dn, Middle and K K line are provided with Electronic Axle counters.

For SEC: PDT-SCMN :-4 pairs of Digital axle counter are provided between PDT-SCMN on Up line, Dn line, Middle line and KK line.

FOR SEC: PDT-KTV:- 4 pairs of Digital axle counter are provided between PDT-KTV on Up line, Dn line, Middle line and KK line.

The position of the Block section whether cleared or occupied are reflected in the Panel/VDU provided in the Station Master's office which shows 'GREEN' when the Block Section is clear and 'RED' when occupied. Whenever a train enters in to the Block Section, "Block Section Clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears.
After complete arrival of the train the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of the train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR.14.13 is to be followed. The axle counters are interlocked with the respective block instruments for that section. If axle counter fails, Advanced Starter signal shall not come to OFF and the concerned instrument shall remain locked in last operated position.
A resetting arrangement for resumption of the system in case of failure of axle counter has been provided in the SM office of the adjacent Block stations after being assured by both the SM that the last vehicle has arrived complete at the receiving station by exchanging Private Number then resetting to be complied with. (Details of resetting procedure given in APPENDIX-'B' of this SWR).

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

INTERMEDIATE BLOCK STOP SIGNALS:- Nil.

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

The Relay room should be kept locked with two separate locks. The arrangement should be such that one key is kept with the on duty SM & the other key with the Signal Maintainer. Whenever required the SM shall handover the key to the maintainer with proper acknowledgement in the basement/ relay room key register. The maintainer on receipt of the key from the SM may use the same and the key in his custody to open the basement/ relay room by inserting the keys one after another separately into the earmark locks. After completion of the work, the relay room is to be locked using both the keys separately and designated key should be handed over to the SM.
The details of transaction is to be properly recorded in the basement/relay room key register maintained at the station and duly signed by the SM and maintainer respectively.

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.

Eg: 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, auto-change over has been provided.

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

REMOTE MONITORING ASM BOX: Remote monitoring ASM Box gives alarm to the ASM for the following fault conditions:-

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

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

(c) 70% DOD, which signals system, shut-down. In this condition signal feed is cut-off and all DC-DC converters continue working. Audio alarm continues till power supply is restored.

(d) Any of the module fails, which calls for 'call S&T'.

(e) Whenever there is a failure of power supply in 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.

5.0 TELECOMMUNICATIONS :

The station is equipped with the following telecommunication facilities for train operations.

[a] Telephone attached to SGE type Lock and Block and Tokenless Block Instruments for Sections PDT-SCMN and PDT-KTV.

[b] Railway Auto telephones of VSKP exchange is provided at the station.

[c] Section control phone for section VSKP-WMY-DVD-VSKP-KTV [VSKP COMPLEX BOARD].

[d] Section control phone for section OEC-KRPU-KK single line section.

[e] Magneto phone connection with adjacent block station KTV&SCMN is also provided.

[f] Traction power control circuit for section VSKP-PSA.

[g] Traction power control circuit for section OEC-KRPU.

[h] Magneto phone connection with level crossing gates at ML-485 and ML 486

[i] Magneto phone connection with either end of the yard for crank handle release / transmission at Down CH Location No.1,2,3 and Up CH location No.1,2,3 & 4.

[j] VHF set provided at the station.

[k] BSNL telephone provided at station.
[l] Telephone connection provided to APSWC Siding.

6. SYSTEM OF TRAIN WORKING:

The movement of trains is controlled by section controller on duty whose orders shall be complied with provided they do not contravene any provisions of General Rules, Subsidiary Rules, Station Working Rules, Block working manual and any other safe working instructions issued from time to time.

In the event of suspension of control working the Station Master on duty shall work independently in conjunction with the Station Master of adjoining Block Stations and shall be responsible to ensure that there is no undue delay to train operation in general.

6.1 DUTIES OF TRAIN WORKING STAFF IN EACH SHIFT:

The following is the complement of operating staff provided at the station in each shift for train passing duty.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT :

STAFF IN EACH SHIFT :

SS incharge	1(general shift)
SS/SM	2
Traffic Points Man /TP	1

The above staff shall work as per roster issued from time to time by Divisional Railway Manager (P) and these rosters shall be conspicuously displayed in the Station 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 to ascertain the 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 lock key by maintaining register 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 under stood 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:

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

(i) The whole of the last preceding train has arrived completely.

(ii) All necessary signals have been put back to 'ON' behind the said train.

(iii) All signal lights pertaining to the train are lit 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 for granting LINE CLEAR.

- For UP trains from KTV : Upto facing point 51A.
- For Up trains from middle line : Upto Adv.STr 46
- For KK trains from KTVL Upto Adv.Str 42

NOTE:

1.) If the light of the reception signal is found not burning, line clear shall not be granted for train till such time it is ensured that the concerned Driver is notified of the fact in writing by the Station Master of the station to which such line clear is to be granted.

2.) Before granting line clear, the SM on duty shall ensure the closure of the L.C.gate from the gateman on duty supported by a private number.

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

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE

When a running line is blocked by stabled load, wagon, vehicle or by a train which is to cross or give procedure to another train or immediately offer the arrival of a train of the station etc., the points in rear on double line sections and at either end in single line sections should be immediately set against the blocked line except when shunting or any other movement is required to be done on that line.[Refer GR3.51.06(a)].

If all the lines at a station happen to be blocked, when line clear has been granted to a train, the point should be set for the line occupied by a stabled load or a Goods train. [Refer SR. 3.51.06 (b)].

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

6.2.1.2 RECEPTION OF A TRAIN ON BLOCKED LINE

Whenever trains are to be admitted on an obstructed line it is necessary that the train are piloted IN on a written authority given by the SM on duty and delivered by a competent Railway servant to the Loco Pilot of the train or by taking off the calling on signal. [Refer GR 5.09 & SRs there to].

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE

Before receiving a train on non-signaled line, the SM shall ensure that -

a) The train is brought to a stand at the first stop signal.
b) The line on which it is intended to receive the train is clear up to the trailing points or up to the place at which the train is required to come to a stand.
c) All points over which the train has to pass are correctly set, the facing and trailing points are clamped and padlocked and
d) The Loco pilot is authorized to pass the approach stop signals at 'ON' through a written authority. [Refer GR 5.10].

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE.

When ever a train is to be dispatched from a non-signaled line, a Starting Order on form T-511 shall be given to the Driver to start from the non-signaled line. [Refer SR.5.11.1]

6.2.1.5 DESPATCH OF TRAIN FROM LINE PROVIDED WITH COMMON STARTER SIGNAL.

NIL.

6.2.1.6 SPECIAL CONDITIONS :

a) SPECIAL INSTRUCTIONS :

NIL

b) SPECIAL RESTRICTIONS :

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].

ADEQUATE DISTANCE: (SIGNAL OVERLAP)

To take off the Home signals for admission of a train, the adequate distance (overlap) as mentioned below shall be kept clear. [Refer GR.3.40 and SR thereto].

CLEARANCE OF ADEQUATE DISTANCE (SIGNAL OVERLAP)

FOR UP TRAINS		
Line Number	From	To
1. Common Loop	Starter Signal No. 19 A/B/C	The end of over run line D.S No.72 or advanced starter signal No.41 or 43
2. UP Main Loop	Starter signal No.21 A/B/C	Advanced starter signal No.41 OR 43.
3. Middle Line	Starter signal No.23 A/B/C.	Advanced starter signal No.41 OR 43.
4 Middle Loop	Starter signal No 25 A/B/C.	The end of sand hump or Advance starter Signal No.41 OR 45
5 Common Loop	Starter signal No.27 A/B/C.	The end of over run line.
7 K K Line	Starter signal No.22 A/B	Advanced starter signal No.42 or Upto intermediate signal No.36.
8 K K Loop	Starter signal No.20 A/B	The end of sand hump or Up Adv. Starter Signal No.42 or upto intermediate starter signal No.36 A/B/C.

FOR DOWN TRAINS		
Line Number	From	To

1. Common Loop	Starter signal No.34 A/B	The end of over run line
2. UP Main Loop	---	---
3. Middle Line	Starter signal No 30 A/B	Advanced starter signal No.46 or intermediate starter signal No.36 A/B/C..
4 Middle Loop	Starter signal No.28 A/B	The end of over run line or up to intermediate starter signal No.36A/B/C or upto advanced starter signal l No.46.
5 Common Loop	Starter signal No.26	The end of over run line or intermediate starter signal No.36 A/B/C.
6 Down Line	Starter signal No.24	Intermediate starter signal No. 36 A/B/C.
7 K K Line	Starter signal No.31 A/B/C	Advance starter signal No.45
8 K K Loop	Starter signal No.33 A/B/C	The end of sand hump or advanced signal starter No.45

6.3.1 RESPONSIBILITY OF STATION MASTER FOR RESTORATION OF SIGNALS TO "ON"

If a signal once taken 'OFF" for reception/dispatch of a train, and in emergency it required to put back to 'ON' in case of reception signal, the route over which the train would pass shall not be altered until the train has come to stand unless the route has to be altered to avert an accident. In case of departure signal, before changing the points or allowing any other movements the "Authority to Proceed" if any, handed over to the Driver must be with drawn and the Driver of the train concerned shall be advised of the change in writing and his acknowledgement will be obtained in a memo. [Refer SR 3.36.02 (a) & (b)]

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

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

1.	Reception of an Up train on Line No.1 from UP line or Middle Line set to over run line.	Dispatch of another UP train from Line No.2 or 3 or 4 on Up Line / Middle line. Or Reception of Dn train or K.K.grid train on Line No.1 Set to O/R Line.
2.	Reception of an Up train on Line No.4 from Up Line / Middle line set to S/H.	Dispatch of an UP train from Line No.1 or 2 or 3 on Up Line / Middle Line. Or Reception of a Up train from KK grid to Line No.3/4.
3	Reception of a Dn train from KK grid on Line No.1 set to O/R Line.	Dispatch of another train from line No.2 to 8 except 6 towards SCMN or Reception of another train from

		SCMN to Line No.4 set to O/R Line or Line 8 set to S/H.
4	Reception of a Dn train from KK grid on Line No. 4 set to S/H.	Dispatch of another train to SCMN from Line No.1 or 2 or 3 or 7 or 8 or Reception of another train from SCMN to Line No.1 set to O/R Line/ Line No.5 set to O/R Line/Line No.8 set to S/H.
5	Reception of Dn train from KK grid on Line No.5 set to O/R Line.	Dispatch of another train to SCMN from Line No.1/2/3/4/7/8 or Reception of another train from SCMN to Line No.1/3/4/8.
6	Reception of Dn train from SCMN from Dn Line / Middle Line on Line No.1 set to O/R Line.	Dispatch of another train from Line No.3 to 8 except Line No.2 towards KTV or Reception of another train for KTV on Line No.4 and 8 set to S/H & 5 set to O/R Line.
7	Reception of a train in SCMN on Line No.4 set to O/R Line from Dn Line/Middle Line.	Dispatch of another train for Line No.1 to 8 except Line No.2 or Reception of another train for KTV on Line No.1/2/5/7/8.
8	Reception of an Up train for Up Line/Middle Line at KTV end on Line No.5 set to O/R Line.	Dispatch of another train forwards SCMN from Line No.1/2/3/4/7/8 or Reception another train for SCMN to Line No.1/3/4/7/8.
9	Reception of and Up train for Up Line/ Middle Line at KTV end on Line No.7 or 8.	Dispatch of another train towards SCMN for Line No.1/2/3/4 or 5 or Reception of another train from SCMN to Line No.1 set to O/R Line or Line No.4 set to O/R Line No.5 set to O/R Line.
10	Reception of a train from SCMN on DN Line / Middle Line on Line No.5 set to O/R Line/Line No.6.	Dispatch of a train from Line No.1/3/4/6/7/8 to KTV or Receiving of a train for KTV to Line No.1 set to O/R Line/ Line No.2/Line No.4 set to S.H or 7 or 8.
11	Reception of a train from SCMN on DN Line/ Middle Line on Line No. 7/8.	Dispatch of a train for Line No.1/3/4/5/6 or Receiving of a train for KTV to Line
12	Reception of a Dn train from middle line to line No.5 overlap set to over run line.	Dispatch of a train to KTV for Line No.3 to 8 or

		Receiving of a train for KTV to Line No.4 set to S/H Line No.5 set to O/R Line or Line No.8 set to S/H.
13	Reception of a train for K.K grid SCMN to line no.3	Dispatch of an train to KTV from line no.5 to 8 or Receiving of a train for KTV to Line No.1/2/5/7/8.
14	Reception of a train from K.K grid of SCMN to Line No.4 set to O/R Line.	Dispatch of an train to KTV from Line No.1/3/5 to 8 or Receiving of a train for KTV on Line No.1/2/3/5/7/8.
15	Reception of a train for K.K grid of SCMN end on Line No.5 set to O/R Line.	Dispatch a train to KTV from Line No.1/3/4/6 to 8 or Receiving a train from KTV for Line No.1 to 4 or 7 or 8.
16	Reception of a train from KK grid of SCMN end on Line No.8 set to S/H.	Dispatch of a train to KTV for Line No.1/3 to 7 or Receiving of a train for KTV to Line No.1 to 5.

6.5 COMPLETE ARRIVAL OF TRAINS:

The entire block section between PDT-SCMN and PDT-KTV on both Up, Down, Middle and KK Lines are monitored by axle counter system and the position of the block section whether 'Occupied' or 'Clear' is indicated on Panel/VDU at SM's office. As soon as train enters in to that block section the RED indication appears on Panel/VDU. After whole train clears the block section GREEN indication appears on the Panel/VDU. This confirms the complete arrival of train and the SM on duty shall give 'Train Out of Block Section' report on seeing the section clear indication GREEN on the Panel/VDU.

If a train passes through the station without conforming the last vehicle indicator, the Station Master on duty shall advise the station in advance to stop the train for last vehicle verification and he need not to withhold closing of block section in rear. He shall obtain confirmation under exchange of private number about the complete arrival of the train with its last vehicle from the station in advance and subsequent trains may be dispatched.

In case of failure of Axle counter the SM on duty shall obtain Complete Arrival Certificate from the guard of the train in the Complete Arrival Register (T/1410) maintained at the station for stopping train. For through passing train the SM on duty shall satisfy himself the complete arrival of the train by verification of the Last Vehicle Indicator vide SR 4.16.05 that the train arrived complete.

In case a train passes incomplete, action shall be taken as per SR.4.17.02, he "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. Train passing on adjacent line shall be stopped and Guard and Driver shall be issued with caution Order to proceed cautiously and stop short of any obstruction as per SR. 4.17.03.

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

6.6 DESPATCH OF TRAINS:

To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the Panel Board/VDU. He shall suspend all non-isolated shunting and the Station Master will ensure that the Level crossing Gate is closed against road traffic and then shall take "OFF" the concerned route starter and advanced starter signal. The 'OFF' aspect of the route starter and advanced starter is the authority to proceed into the block section. As soon as the train passes the Dn advanced starter signal or Up IB signal, Train entering section indication will appear on the panel. The SM will then send the train entering given section signal to the station in advance.
[Refer GR 3.38, 3.42, SR 3.36.04(b), 3.42.04 and BWM 2.07.5(a)]

DESPATCH OF TRAINS ON UP LINE, MIDDLE LINE AND K.K LINE BETWEEN
PDT-SCMN :

The Advanced starter signal No 41, 43 & 45 of PDT shall be taken 'OFF' only when the 'Axle counter' clear indication available on the Panel.
The Station Master on duty shall watch the safe passage of the train with its last vehicle indicator.. If a train is 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]

DESPATCH OF TRAINS ON DOWNLINE, MIDDLE LINE AND K K LINE BETWEEN PDT-KTV:

The Advanced starter signal No 42, 44 & 46 of PDT shall be taken 'OFF' only when the 'Axle counter' clear indication available on the Panel.
The Station Master on duty shall watch the safe passage of the train with its last vehicle indicator.. If a train is worked without Guard or Brake Van the instruction laid down in Subsidiary Rule shall be followed.

Note: Before dispatching an Up train into PDT-SCMN and PDT-KTV block section, the SM on duty shall ensure the closure of the L.C.gate from the gateman on duty supported by a Private Number.

6.7 TRAINS RUNNING THROUGH:

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.) In every case in which trains are permitted to run through on a non isolated line, all shunting shall be stopped and no vehicle unattached to an engine or not properly secured in accordance with rule 5.23 may be kept standing on a connected line which is not isolated from through line vide SR 4.11(2).

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

PROCEDURE TO BE FOLLOWED FOR WORKING OF TRAINS DURING FAILURE /SUSPENSION OF INTERLOCKING /SIGNALS/ POINTS:

A. TRACK CIRCUITS:

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

B. AXLE COUNTER:

If the axle counter fails between the block sections, resetting procedure will be adopted as per SWR (APP-B) . if the axle counter indication does not appear 'GREEN & continues to show 'RED' condition after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SE (signal) for rectification.

C. 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)

During this period of time the authority will be T/369(3b) with identification number and Private Number issued from the station in advance written both in figure and words.

D. RECEPTION OF A TRAIN ON BLOCKED LINE

Whenever trains are to be admitted on an obstructed line it is necessary that the train are piloted IN on a written authority given by the SM on duty and delivered by a competent Railway servant to the Loco Pilot of the train or by taking off the calling on signal. [Refer GR 5.09 & SRs there to].

E. RECEPTION OF TRAIN ON NON-SIGNALLED LINE

Before receiving a train on non-signaled line, the SM shall ensure that-

a) The train is brought to a stand at the first stop signal.
b) The line on which it is intended to receive the train is clear up to the trailing points or up to the place at which the train is required to come to a stand.
c) All points over which the train has to pass are correctly set, the facing and trailing points are clamped and padlocked and
d) The Driver is authorized to pass the approach stop signals at 'ON' through a written authority. [Refer GR 5.10].

F. DEFECTIVE SIGNALS:

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

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

G. INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

However, before declaring a signal is defective, the setting of the point on the route to which it applies shall be inspected by the Station 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]

H. 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 (a) & (c).

I. DEFECTIVE/DAMAGED POINTS

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

SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency Crank handle register shall be maintained by the SM on duty at the station as per Para 20.06(d) of the Operating Manual. Correct setting clamping and padlocking of the points devolve on the SM on duty. (Details of use of Crank Handle as per Appendix-'B').

The cases of the failures of the motor point should be promptly reported to the concerned signal maintainer/signal inspector for immediate rectification.

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

Motor trolleys are to run in accordance with rules laid down in SRs. Material Lorries will work in accordance with SR. [Rules laid down in BWM. Refer SR 15.25.03 to 15.25.07, 5.11(2), 5.12, 5.13 of BWM]

i) Trolleys, Motor Trolleys, Lorries which are not insulated shall not be allowed to run except on Line clear.

ii) Motor Trolleys/Tower Wagon/material Lorries are not likely to actuate the Axle Counter correctly.

iii) In all other respects the Working of a light motor trolley shall confirm to the rules laid down for ordinary trolleys while running without block protection and to those laid down for motor trolleys while running under block protection or following another light motor trolley.

7.0 BLOCKING OF THE LINES:

When a running line is block by stabled load, wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after arrival of a train at the station the points at either end on single line section should be immediately set against the block line except when shunting or any other movement is required to be done immediately in that direction on that line.

A clear remark in 'RED' ink shall be made immediately in the train signal register and a

record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23 and SR 5.23.01]

A. **SECURING OF VEHICLES: -**

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

NOTE

Special care should be taken to secure special type vehicles fitted with roller bearing while standing in siding or in running lines. [Refer GR 5.23 & SR 5.23.01]

8.0 SHUNTING

8.1 GENERAL PRECAUTIONS.

Shunting will be carried out at the station in accordance with General Rule and relevant Subsidiary Rules and Block working Manual [Refer GR 3.46, 3.52 to 3.56,5.13 to 5.23, 8.09 to 8.15] The SM on duty is authorized to supervise shunting operation. Normally back shunt, shunt below starters and intermediate starter signals shall be used for shunting operations. The official supervising the shunting shall ensure the correct setting, clamping and padlocking of points in case of Non signaled movements.

The SM on duty and the official supervising shunting shall cooperate with each other regarding shunting operations. Neither reception signals nor departure signals shall be taken 'OFF' unless the shunting is isolated and the path of incoming or outgoing train is free from obstructions. The over run line may be used as shunting neck.

NOTE

For any non signaled movement physical verification of the clearance of the crossover points shall be ensured by the Guard/SM on duty for supervising shunting operations.

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:

-

8.3 PROHIBITION OF SHUNTING ANY SPECIAL FEATURES IF ANY:

(i) Hand shunting /Fly shunting is prohibited at both ends of the yard.

(ii) For shunting towards VSKP end as well HWH end of the yard, Engine should be ending towards the following gradient.

8.4A SHUNTING OUTSIDE STATION SECTION:-

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

(b) Shunting or obstruction for any other purpose shall not be permitted in block section in rear unless it is clear and is blocked back.

c) Shunting or obstruction for any other purpose shall not be permitted in block section in advance unless it is clear and is block forward vide GR 8.06.(3).

B SHUNTING WITHIN STATION SECTION :

If necessary signals are kept at "ON", shunting may be carried on within the station section but this shall be done only when there is no approaching train since shunting in the face of an approaching train is prohibited at this station.

8.5 SHUNTING IN THE SIDING TAKING OFF FROM THE STATION YARD :

While performing shunting in the sidings it should be authorized by issuing T/806 clearly mentioning the limits up to which shunting is permitted as also the lines, occupied in shunting. The relevant provisions of GR 5.14 and SR thereto shall be meticulously followed.

9.0 ABNORMAL CONDITION:-

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 train shall be worked in accordance with BWM 5.16 & 5.23 and SR 6.02.06.

ii) The authority to proceed in the occupied block section in case of obstruction of line or accident etc.
Rules and regulations for working of trains on obstructed line in case of obstructions or accident on the authority of Block Ticket T/A 602 when communications are available shall be followed in accordance with the provisions of SR 6.02.02 and 06.02.05.

iii) Trains delayed in Block Section:
The rules laid down in GR 6.04 shall be observed

b.) REPORTING FAILURE OF POINTS, TRACK CIRCUITS AND INTERLOCKING :

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 the receipt of the written memo from the signal maintenance staff for rectification of the fault SM on duty should restore the normal working after testing for its normal function SR 3.51.04 & SR 3.77.01 shall be followed.

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 6.02.05.
b.) During partial interruption of communications the rules laid down in SR 6.02.03 shall be followed.

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 PDT-SCMN and PDT-KTV, train shall be worked as per the procedure.

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) when communications are available shall be followed in accordance with the provisions of SR 6.02.05.

10. VISIBILITY TEST OBJECT:

The signal lights of signal No.19 A/B/C for UP direction and Signal No.34 A/B for down direction of Line No.1 during day and night are the visibility test object vide GR 3.61.2(b)(iii)

11. ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-'E')

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

FOG SIGNALLING**:-**

In case of thick, foggy or tempestuous weather impairing visibility, whenever it is necessary to indicate to the Driver of an approaching train the locality of a signal, the SM on duty at station shall arrange for signaling in terms of General Rules 3.61 and Subsidiary Rules thereto. The assurance of the staff shall be obtained in the month of OCTOBER every year in the Fog Signal Register vide SR.3.61 as a token of their acknowledgement in fog signaling Rules.

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

12.1 STATION DETONATOR REGISTER (OPT/124)

A Register regarding detonator is maintained at the station.

12.2 INSTRUCTIONS:

This register contains the following parts.

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

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

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

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

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

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

APPENDICES

APPENDIX-A	:	WORKING OF LEVEL CROSSING GATES
APPENDIX-B	:	SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION.
APPENDIX-B1	:	WORKING INSTRUCTIONS ON VDU
APPENDIX-C	:	ANTI COLLISION DEVICE (RAKSHA KAVACH)
APPENDIX-D	:	DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT
APPENDIX-E	:	LIST OF ESSENTIAL EQUIPMENT PROVIDED AT THE STATION
APPENDIX-F	:	RULES OF WORKING OF DK STATION, HALTS, IBH, IBS AND OUTLYING SIDINGS
APPENDIX-G	:	RULES FOR WOKING OF TRAINS IN ELECTRIFIED SECTIONS
APPENDIX-H	:	RULES FOR WORKING OF PRIVATE SIDINGS.

16.0 **CERTIFICATE:**

NOTHING IN THESE RULES SHALL BE READ AS CANCELING, AMENDING OR MODIFYING ANY GENERAL RULES AND SUBSIDIARY RULES, BLOCK WORKING MANUAL AND OPERATING MANUAL. THESE RULES CANCEL ALL PREVIOUS STATION WORKING RULES.

APPENDIX 'A' TO STATION WORKING RULES OF PENDURTI
LEVEL CROSSING GATES

LEVEL CROSSING GATES

Working Rules of PENDURTI (PDT)

WORKING OF 'C' CLASS LEVEL CROSSING GATE AT Km. 857/0-1 (L.C.No. ML-485)

These instructions should be read together with provisions in General & Subsidiary Rules. Railways shall ensure that all Safety requirements are covered while modifying these instruction based on local conditions and requirements.

Following general instructions are meant for all types of Manned Level Crossing Gates Specific Instructions for working of different types of Level Crossing Gates are attached as Annexure.

GENERAL DESCRIPTION OF LEVEL CROSSING GATE:

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

1.	Number of Level Crossing Gate:	**485**
2.	Engineering or Traffic Gate:	**Engineering**
3.	Under control of Station Master / Permanent Way Inspector:	**SSE/P/KTV**
4.	Location at Km.:	**857/0-1**
5.	At Station:	**Between PDT-KTV**
6.	In between stations:	**Between PDT-KTV**
7.	BG / MG / NG:	**BG**
8.	Single line / Double line / Multiple line:	**Multiple line**
9.	Normal Position:	**Closed to road traffic**
10.	Interlocked / Non-Interlocked:	**Non-Interlocked**
11.	Means of Interlocking:	**Non-Interlocked**
12.	Provision of Gate signal at Kms.:	
	(i) Up Line:	**Nil**
	(ii) Dn Line:	**Nil**
	(iii) 3rd Line:	**Nil**
	(iv) K-K Line:	**Nil**
13.	Signalling arrangements:	No
14.	Means of Communication – Telephone / Bell etc.,:	**PDT Station**
15.	Width of level crossing gate:	**7.50m**
16.	Type of road (NH / SH / Others):	**Other**
17.	Name of Road:	**Sreerangasettipalem**
18.	Metalled / non-metalled :	**Metalled**
19.	Approach road :	**Metalled**
20.	Width of the road :	**5.00m**
21.	Angle of road crossing (in case of the skew gates):	**90^0**
22	Road gradient (if any):	
	(i) North / East side :	**1 in 20**

	(ii) South / West side :	**1 in 20**
23.	Road alignment (straight/curve):	
	(i) North / East side :	**Straight**
	(ii) South / West side:	**Straight**
24.	Provision of height gauges:	**Provided**
25.	Type of Barriers :	**Coupled Lifting Barrier**
26.	Length of Check rails:	**7.5m**
27.	Road surface in between L-Xing gates:	**Level C.C.Block**
28.	Length of Rumble strip / speed breakers:	**4.5m**
29.	Road signs:	**Provided**
30.	Speed breaker indication board:	**Provided**
31.	TVU:	**8181/ on 7/2015**
32.	Census next due on	**2018**
33.	Demarcation for placement of Detonators	**Provided**
34.	No. of Gatemen working	**Three**
35.	Nearest Railway Medical Assistance	**Visakhapatnam**
36.	Nearest Private Medical Assistance available (if any)	**Pendurti**
37.	List of equipment available Yes / No	**YES**

1.2 EQUIPMENT:

	Items	Quantity / Numbers
1.	Hand Signal Lamp Tri Colour	5 Nos.
2.	Hand Signal Flag Green	1 No. With mounted stick
3.	Hand Signal Flag Red	6 Nos.
4.	Banner Flag Red	5 Nos.
5.	Posts for exhibiting red banner flag	4 Nos.
6.	Spare chains with padlocks	2 with stop marker
7.	Detonators	10 in each case
8.	A small size chain for use in case of Failure of gate boom/lock	3 Nos.
9.	Gate lamps	2 Nos.
10.	Tommy Bar	1 No.
11.	Mortar Pan	1 No.
12.	Spade / Fowrah	1 No.
13.	Rammer	1 No.(In case of asphalted rod this may not be provided)
14.	Pick Axe	1 No. (In case of asphalted rod this may not be provided)
15.	Tin case for flags	1 No.
16.	Can for oil	1 No.
17.	Water port / Bucket	1 No.

18.	Canister for Muster Roll	1 No.
19.	Set of spare spectacles of gateman wearing glasses	1 No.
20.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1 No.
21.	Basket	1 No.
22.	Whistle	1 No.
23.	Wall Clock	1 No.

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

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

1.4 MODE OF OPERATION:

Detailed mode of operation for opening and closing the level crossing gate shall be provided in the respective Station Working Rules and Gate Working Instructions incorporating local operational requirements. When level crossing gate is required to be opened for passage of road traffic, the gateman will operate the winch after following the instructions given in Para item (i) to (vi).

1.5 DUTIES OF GATEMAN:

1. ALERTNESS:

The gateman shall be alert and be prepared to take immediate action, should danger be apprehended. Keys of the gate shall be in his personal custody.

2. POSITION DURING PASSAGE OF TRAINS:

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

i) Gateman will stand alternatively in front of the gate-lodge facing the approaching train.

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

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

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

3. ROUTINE DUTIES OF GATEMAN:

i) Gateman shall ensure that red banner flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.

ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.

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

iv) Except where otherwise prescribed under Special Instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.

v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, and vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

vi) Gateman shall also prepared to repeat any signal which guard may give to drive on walkie-talkie or in any other way.

vii) If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.

viii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.

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

x) At the gate whose signal have become defective, the gateman shall close and lock the lifting barriers on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the driver to report the defect at the next station.

xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.

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

xiii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.

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

xv) Gateman shall see that the channel for the flange of the wheel is kept clear.

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

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

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

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

4. ACTION IN CASE OF UNUSUAL OCCURANCE ON TRAIN:

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

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

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

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

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

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

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

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

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

The gateman shall protect the line as under:-

A) <u>On double line section:</u>

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

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

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

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

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

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

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

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

B) <u>On single line section:</u>

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

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

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

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

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

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

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

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

C) On Multiple lines and parallel single lines:

The procedure for protection shall be as indicated in sub-rule (a) or (b) above, as applicable, duly amplified by local instructions as may be warranted in each case. Banner flags shall be planted and detonators placed on each of the obstructed lines in the directions from which trains are likely to approach.

D) <u>Other action to be taken by Gateman:</u>

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

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

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

1. <u>ENGINEERING ITEMS:</u>
6

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

1. <u>SPECIAL INSTRUCTIONS FOR DIFFERENT TYPES OF LEVEL CROSSINGS:</u>
7

Instructions for different types of manned Level Crossing Gates are given in Annexures as follows:

i)	Annexure – I	Engineering Level Crossing Gate, Interlocked with gate signals, provided with telephone, with normal position 'Open to road traffic'.
ii)	Annexure – II	Traffic Level Crossing Gate, Interlocked with stop signals of the station, provided with telephone, with normal position 'Open to road traffic'.
iii)	Annexure – III	Traffic Level Crossing Gate, Interlocked with stop signals of the station, provided with telephone, with normal position 'Closed to road traffic'.
iv)	Annexure – IV	Engineering Level Crossing Gate, non-interlocked, provided with telephone, with normal position 'Open to road traffic'.
v)	Annexure – V	Engineering Level Crossing Gate, non-interlocked, provided with telephone, with normal position 'Closed to road traffic'.
vi)	Annexure – VI	Engineering Level Crossing Gate, non-interlocked, not provided with telephone, with normal position 'Closed to road traffic'.

ANNEXURE – V

WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES, NON-INTERLOCKED, PROVIDED WITH TELEPHONE, WITH NORMAL POSITION "CLOSED TO ROAD TRAFFIC"
(General Instructions are common for all types of Manned Level Crossing Gates)

1. Mode of Operation:

Detailed mode of operation for opening and closing the level crossing gate shall be provided in the respective Station Working Rules and Gate Working Instructions incorporating local operational requirements. When level crossing gate is required to be opened for passage of road traffic, the gateman will operate the winch after following the instructions given in Para-2 item (i) to (vi).

2. Exchange of Private Number:

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

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

(iii) The station master/ Cabin master shall not permit any train to enter the block section, unless he is assured off the closure and locking of the gate by the gateman supported by exchange of private number..

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

1. He has not exchange any private number as per item (ii) above or
2. If he has exchanged private number with Station master/Cabin master the whole of the train with last vehicle indicator has passed over the level crossing gate and the Station master/Cabin master has not exchange the private number with him for any other movement immediately in rear of the train or on the adjacent line(s).
   Before opening the gate for road traffic he shall display banner flag/danger signal at either side of the track at distance of 5m away from the gate. Then he shall open the gate for passing the road traffic keeping red flag/red hand signal lamp ready in his hand to stop approaching train if any.

(v) In case the gateman is not responding on the telephone or in case the telephone becomes defective or private number is received from the gateman, the Station master shall adhere to the procedure prescribed in SR 16.03.02 below.

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

3. Failure of Telephonic Communication:

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

(i) Station Master at the dispatching end shall issue a caution order to the drive of the departing train.

(ii) The caution order shall advise the Loco pilot to whistle continuously and approach the gate cautiously.

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

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

(v) The Station Master at the dispatching end shall then issue a caution order to the loco pilot before dispatching a train in the block section from his end.

(vi) Station Master shall also advise the gateman through Track maintainer / patrolman or Loco pilot of the first train that the telephone has become defective.

(vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.

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

4. <u>Failure of Lifting Barriers:</u>

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

(ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.

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

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

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

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

(vii) He should also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the same at the earliest.

(viii) Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection / fit memo for the same.

5. <u>Obstruction at the Gate:</u>

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

(ii) Immediately after this, the gateman shall advise the Station Master / Switchman / Cabin man on duty, regarding defects / obstruction at the gate, under exchange of private number.

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

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

(v) He shall then rush with detonators, fuse and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no.1.5(5).

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

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

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

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

(x) Station Master shall then issue a caution order to Loco pilot of all trains to proceed cautiously, and pass the gate on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.

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

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

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

6. Obstruction on the Track near Level Crossing:

If there is a rail fracture or obstruction on the track due to falling of tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No.5 above. If the obstruction fouls the Level Crossing Gate he must keep the gates closed against road traffic till the track is cleared of the obstruction.

LEVEL CROSSING GATES

Working Rules of PENDURTI (PDT)

WORKING OF 'C' CLASS LEVEL CROSSING GATE AT Km. 857/27-29 (L.C.No.ML-486)

These instructions should be read together with provisions in General & Subsidiary Rules. Railways shall ensure that all Safety requirements are covered while modifying these instruction based on local conditions and requirements.

Following general instructions are meant for all types of Manned Level Crossing Gates Specific Instructions for working of different types of Level Crossing Gates are attached as Annexure.

GENERAL DESCRIPTION OF LEVEL CROSSING GATE:

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

1.	Number of Level Crossing Gate	**486**
2.	Engineering or Traffic Gate	**Engineering**
3.	Under control of Station Master / Permanent Way Inspector	**SSE/P/KTV**
4.	Location at KM.	**857/27-29**
5.	At Station	**PDT (connected)**
6.	In between stations	**Between KTV-PDT**
7.	BG / MG / NG	**BG**
8.	Single line / Double line / Multiple line	**Multiple line**
9.	Normal Position	**Closed to road traffic**
10.	Interlocked / Non-Interlocked	**Non-Interlocked**
11.	Means of Interlocking	**Non-Interlocked**
12.	Provision of Gate signal at Kms.	
	(i) Up Line	**Nil**
	(ii) Dn Line	**Nil**
	(iii) 3rd Line	**Nil**
	(iv) 4th Line	**Nil**
13.	Signalling arrangements	No
14.	Means of Communication – Telephone / Bell etc.	**PDT Railway Station**
15.	Width of level crossing gate	**7.50m**
16.	Type of road (NH / SH / Others)	**Others**
17.	Name of Road	**Jangalapalem**
18.	Metalled / non-metalled	**Non-Metalled**
19.	Approach road	**. Metalled**
20.	Width of the road	**5.00m**
21.	Angle of road crossing (in case of the skew gates)	**90^0**
22	Road gradient (if any)	
	(i) North / East side	**1 in 20**
	(ii) South / West side	**1 in 20**

[CH.B.SRINIVAS] **[Pradeep Yadav]** **[K.V.S.R.K.KISHORE]**
DSTE / VSKP **Sr.DEN[South]/WAT** **Sr.DOM(M) / WAT**

23.	Road alignment (straight/curve) (i) North / East side (ii) South / West side	**Straight** **Straight**
24.	Provision of height gauges	**Provided**
25.	Type of Barriers	**Coupled Lifting Barrier**
26.	Length of Check rails	**7.5m**
27.	Road surface in between L-Xing gates	**Level**
28.	Length of Rumble strip / speed breakers	**4.5m**
29.	Road signs	**Provided**
30.	Speed breaker indication board	**Provided**
31.	TVU	**7482, Aug-2015**
32.	Census next due on	**08/2018**
33.	Demarcation for placement of Detonators	**Provided**
34.	No. of Gatemen working	**Three**
35.	Nearest Railway Medical Assistance	**Visakhapatnam**
36.	Nearest Private Medical Assistance available (if any)	**Pendurti**
37.	List of equipment available Yes / No	**YES**

1.2 EQUIPMENT:

	Items	Quantity / Numbers
1.	Hand Signal Lamp Tri Colour	5 Nos.
2.	Hand Signal Flag Green	1 No. With mounted stick
3.	Hand Signal Flag Red	6 Nos.
4.	Banner Flag Red	5 Nos.
5.	Posts for exhibiting red banner flag	4 Nos.
6.	Spare chains with padlocks	2 with stop marker
7.	Detonators	10 in each case
8.	A small size chain for use in case of Failure of gate boom/lock	3 Nos.
9.	Gate lamps	2 Nos.
10.	Tommy Bar	1 No.
11.	Mortar Pan	1 No.
12.	Spade / Fowrah	1 No.
13.	Rammer	1 No.(In case of asphalted rod this may not be provided)
14.	Pick Axe	1 No. (In case of asphalted rod this may not be provided)
15.	Tin case for flags	1 No.
16.	Can for oil	1 No.
17.	Water port / Bucket	1 No.
18.	Canister for Muster Roll	1 No.

19.	Set of spare spectacles of gateman wearing glasses	1 No.
20.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1 No.
21.	Basket	1 No.
22.	Whistle	1 No.
23.	Wall Clock	1 No.

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

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

1.4 MODE OF OPERATION:

Detailed mode of operation for opening and closing the level crossing gate shall be provided in the respective Station Working Rules and Gate Working Instructions incorporating local operational requirements. When level crossing gate is required to be opened for passage of road traffic, the gateman will operate the winch after following the instructions given in Para item (i) to (vi).

1.5 DUTIES OF GATEMAN:

1. ALERTNESS:

The gateman shall be alert and be prepared to take immediate action, should danger be apprehended. Keys of the gate shall be in his personal custody.

2. POSITION DURING PASSAGE OF TRAINS:

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

i) Gateman will stand alternatively in front of the gate-lodge facing the approaching train.

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

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

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

3. ROUTINE DUTIES OF GATEMAN:

i) Gateman shall ensure that red banner flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.

ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.

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

iv) Except where otherwise prescribed under Special Instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.

v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, and vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

vi) Gateman shall also prepared to repeat any signal which guard may give to drive on walkie-talkie or in any other way.

vii) If lifting barriers / leaf gates get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.

viii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.

ix) In the event of gate signal becoming defective the gateman shall maintain the signal in the ‘ON’ position even by disconnecting the signal or the wire if necessary.

x) At the gate whose signal have become defective, the gateman shall close and lock the lifting barriers / leaf gates on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the driver to report the defect at the next station.

xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.

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

xiii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.

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

xv) Gateman shall see that the channel for the flange of the wheel is kept clear.

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

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

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

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

4. ACTION IN CASE OF UNUSUAL OCCURANCE ON TRAIN:

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

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

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

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

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

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

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

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

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

The gateman shall protect the line as under:-

A) <u>On double line section:</u>

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

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

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

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

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

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

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

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

B) <u>On single line section:</u>

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

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

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

iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters on BG and 400 meters on MG / NG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters on BG and 800 meters on MG / NG from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

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

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

vii) On those Meter Gauge sections where trains run at more than 75kmph, detonators shall be placed at a distance to be specified under Special Instructions by the Administration.

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

C) On Multiple lines and parallel single lines:

The procedure for protection shall be as indicated in sub-rule (a) or (b) above, as applicable, duly amplified by local instructions as may be warranted in each case. Banner flags shall be planted and detonators placed on each of the obstructed lines in the directions from which trains are likely to approach.

D) <u>Other action to be taken by Gateman:</u>

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

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

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

1. 6 <u>ENGINEERING ITEMS:</u>

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

1. 7 <u>SPECIAL INSTRUCTIONS FOR DIFFERENT TYPES OF LEVEL CROSSINGS:</u>

Instructions for different types of manned Level Crossing Gates are given in Annexures as follows:

i)	Annexure – I	Engineering Level Crossing Gate, Interlocked with gate signals, provided with telephone, with normal position 'Open to road traffic'.
ii)	Annexure – II	Traffic Level Crossing Gate, Interlocked with stop signals of the station, provided with telephone, with normal position 'Open to road traffic'.
iii)	Annexure – III	Traffic Level Crossing Gate, Interlocked with stop signals of the station, provided with telephone, with normal position 'Closed to road traffic'.
iv)	Annexure – IV	Engineering Level Crossing Gate, non-interlocked, provided with telephone, with normal position 'Open to road traffic'.
v)	Annexure – V	Engineering Level Crossing Gate, non-interlocked, provided with telephone, with normal position 'Closed to road traffic'.
vi)	Annexure – VI	Engineering Level Crossing Gate, non-interlocked, not provided with telephone, with normal position 'Closed to road traffic'.

ANNEXURE – V

WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES, NON-INTERLOCKED, PROVIDED WITH TELEPHONE, WITH NORMAL POSITION "CLOSED TO ROAD TRAFFIC"
(General Instructions are common for all types of Manned Level Crossing Gates)

1. Mode of Operation:

Detailed mode of operation for opening and closing the level crossing gate shall be provided in the respective Station Working Rules and Gate Working Instructions incorporating local operational requirements. When level crossing gate is required to be opened for passage of road traffic, the gateman will operate the winch after following the instructions given in Para-2 item (i) to (vi).

2. Exchange of Private Number:

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

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

(iii) The station master/ Cabin master shall not permit any train to enter the block section, unless he is assured off the closure and locking of the gate by the gateman supported by exchange of private number..

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

1. He has not exchange any private number as per item (ii) above or
2. If he has exchanged private number with Station master/Cabin master the whole of the train with last vehicle indicator has passed over the level crossing gate and the Station master/Cabin master has not exchange the private number with him for any other movement immediately in rear of the train or on the adjacent line(s).

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

(v) In case the gateman is not responding on the telephone or in case the telephone becomes defective or private number is received from the gateman, the Station master shall adhere to the procedure prescribed in SR 16.03.02 below.

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

3. Failure of Telephonic Communication:

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

(i) Station Master at the dispatching end shall issue a caution order to the drive of the departing train.

(ii) The caution order shall advise the Loco pilot to whistle continuously and approach the gate cautiously.

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

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

(v) The Station Master at the dispatching end shall then issue a caution order to

the loco pilot before dispatching a train in the block section from his end.

(vi) Station Master shall also advise the gateman through Track maintainer / patrolman or Loco pilot of the first train that the telephone has become defective.

(vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.

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

4. <u>Failure of Lifting Barriers:</u>

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

(ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.

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

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

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

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

(vii) He should also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the same at the earliest.

(viii) Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection / fit memo for the same.

5. <u>Obstruction at the Gate:</u>

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

(ii) Immediately after this, the gateman shall advise the Station Master / Switchman / Cabin man on duty, regarding defects / obstruction at the gate,

under exchange of private number.

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

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

(v) He shall then rush with detonators, fuse and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no.1.5(5).

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

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

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

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

(x) Station Master shall then issue a caution order to Loco pilot of all trains to proceed cautiously, and pass the gate on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.

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

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

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

6. Obstruction on the Track near Level Crossing:

If there is a rail fracture or obstruction on the track due to falling of tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No.5 above. If the obstruction fouls the Level Crossing Gate he must keep the gates closed against road traffic till the track is cleared of the obstruction.

APPENDIX –‘ B’ TO STATION WORKING RULES OF PENDURTI STATION.

DETAILS OF SIGNALLING AND INTER LOCKING INSTALLATIONS, INSTRUCTIONS FOR WORKING THEM NORMALLY AND IN EMERGENCIES ETC, INCLUDING POWER SUPPLY ARRANGEMENTS

1.1 BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:

This is a “B” class station with standard II R interlocking (with isolation). The points and signals are power operated from a composite ‘DOMINO TYPE’ full-fledged panel installed in the SM ‘s office. This station is equipped with manually operated MACLS. The SGE type DLBI is provided in the SMs panel room for Up and Dn Line for section PDT-SCMN and PDT-KTV and TLBI is provided in SM’s Panel Room for the section PDT-SCMN and PDT-KTV for middle line and K.K line.

1.2 DESCRIPTION OF PANEL:

The yard lay out is depicted in the panel board in a miniature form and is fixed parallel to the track so that when the SM on duty faces this panel, the Yard drawing on the panel corresponds to the actual field lay out in either direction. A visual display unit [computer] is provided in the SMs office as a stand by option.
[The description and the function of visual display unit is given in Appendix ‘B1’]

1.3 POINT PUSH BUTTONS:

Each point is provided with push button [Black in color] for individual operation of Points. For operation of point to normal/reverse position, point group push buttons [Black with red dot] are provided. Point button and point group button normal/reverse shall conjunctively be pressed for operation of point to required position. To indicate the position of point, a white-steady strip on normal point zone, and a white steady strip on reverse point zone provided on the panel for actual layout.

1.4 When a point is set and locked correctly in normal position, a white steady strip indication on normal point zone appears suggesting that the point is in normal position.

1.5 When a point is set and locked correctly in reverse position, a white steady strip indication on reverse point zone appears suggesting that the point is in reverse position.

1.6 When the point is operated from reverse to normal position, a white strip indication on normal point zone will start flashing till the concerned point is set and locked in normal position. When the point is operated from normal to reverse, a white strip indication on reverse point zone will start flashing till the concerned point is set and locked in reverse position.

1.7 **OPERATION OF POINTS:**

Points are operated to normal or reverse by pressing individual point button in conjunction with the point group button there by the white strip indication on normal point zone or reverse point zone as the case may appears and points are set to normal or reverse position and locked. Then the white steady strip indication on normal point zone and white steady strip indication on reverse point zone will appear as the case may be. During the automatic route setting of the train operation, the same indication will glow.

1.8 All running line points are operated by Elect. Point machine.

2.0 The course for non-setting of the point in the desired position has to be checked up by the SM on duty according to G&SR3.68.01[c] and if there is defect other than obstruction the point is to be considered as defective and action shall be taken for clamping and pad locking these points in the desired position by the SM on duty himself for all trains according to SR 3.69.03[c]

2.1 **DESCRIPTION OF POINTS:**

Sl. No	Point Button No	Colour	Description.
1	52	Black	Cross over point between Middle line & UP line at SCMN end.
2	54	Black	Cross over point between Middle line & DN line at SCMN end.
3.	56	Black	Cross over point between DN Line & Middle line at SCMN end.
4	58	Black	Cross over point between DN main line and Middle line at SCMN end.
5	60	Black	Cross over point between DN line and KK Line at SCMN end.
6	66	Black	Cross over point between UP line and Middle line at SCMN end.

	7	70	Black	Cross over point between UP line and line No.1[Commom loop].
	8	72	Black	DS point between Line No.1[Common loop] and APSWC siding at SCMN end..
	9	68	Black	Cross over point between Middle line and Line No.4 [Middle loop] at SCMN end..
	10	64	Black	Cross over point between Down line and line No..5 at SCMN end
	11	62	Black	Cross over point between KK Line and Line No.8 [KK loop] at SCMN end.
	12	51	Black	Cross over point between Up line and Middle Line at KTV end.
	13	53	Black	Cross over point between DN line and Middle line at KTV end.
	14	55	Black	Cross over point between DN line and KK line at KTV end.
	15	57	Black	Cross over point between Middle line and DN line at KTV end.
	16	59	Black	Cross over point between Middle line and UP line at KTV end.
	17	61	Black	Cross over point between UP line and line No.1 [Common loop] at KTV end.
	18	63	Black	Cross over point between Middle line and line No.4 [Middle loop] at KTV end .
	19	65	Black	Cross over point between KK line and line No.4 [Middle loop] at KTV end.
	20	67	Black	Cross over point between line No.5 [Common loop] and Down line at KTV end.
	21	69	Black	Cross over point between KK line and line No.8 [KK loop] at KTV end.

2.2 **SIGNAL BUTTONS:**

Sl. No	Button Number	Colour	Description
1	C1	Red with White dot	UP calling on signal [Up line] for line No.1,2,3,4,5,7 & 8
2	S1	Red	UP Home signal [Up line] for line No. 1,2,3,4,5,7 & 8
3	C2	Red with White dot	DN calling on signal[Dn Line] for Line No:1,3,4,5,6, 7 & 8
4	S2	Red	DN Home signal [Dn line]for Line No. 1,3,4,5,6, 7 & 8
5	C3	Red with White dot	Up calling on Signal [Middle line] for line No.1,2,3,4,5,7, & 8
6	S3	Red	Up Home signal[Middle line] for Line No. 1,2,3,4,5,7, & 8

7	C4	Red with White dot	Dn calling on signal [Middle line] for Line No: 1,3,4,5,6,7,& 8
8	S4	Red	Dn Home Signal[Middle line] for Line No. 1,3,4,5,6,7,& 8
9	C5	Red with White dot	Up calling on signal KK line for line No. 1,2,3,4,5, 7 & 8
10	S5	Red	Home signal KK line for line No. 1,2,3,4,5, 7 & 8
11	C6	Red with White dot	Up calling on signal KK line for line No. 1,3,4,5,6, 7 & 8
12	S6	Red	Home signal KK line for line No. 1,3,4,5,6, 7 & 8
13	S41	Red	Up advanced starter for Up line
14	S43	Red	Up advanced starter for middle line.
15	S45	Red	Up advanced starter for KK line.
16	SH8	Yellow	Shunt signal for Line no. 1 to 8
12	SH10	Yellow	Shunt signal for line No. 1 to 8
13	SH12	Yellow	Shunt signal for line No.1 to 8
14	SH14	Yellow	Shunt signal on APSWC siding.
15	S19	Red	Up Starter Signal on Line No.1
16	C19	Red with white dot	Calling on signal below Up starter signal of line No.1.
17	SH19	Yellow	Shunt signal below Up starter signal of line No.1.
18	S21	Red	Up main line starter signal on Line No.2
19	C21	Red with White dot	Calling on Signal below Up main line starter signal on Line No.2
20	SH 21	Yellow	Shunt signal below Up main line starter signal on Line No.2
21	S23	Red	Up main starter signal on Line No.3 middle line.
22	C23	Red with white dot	Up Calling on Signal below Up main starter signal on Line No.3 middle line.
23	SH23	Yellow	Shunt signal below Up main starter signal on Line No.3 middle line.
24	S25	Red	Up starter signal on Line No.4
25	C25	Red with white dot	Calling on Signal below Up starter signal on Line No.4.
26	SH25	Yellow	Shunt signal below Up starter signal on Line No.4
27	S27	Red	Up starter signal on Line No.5
28	C27	Red with white dot	Calling on Signal below Up starter signal on Line No.5.
29	SH27	Yellow	Shunt signal below Up Starter Signal on Line No.5.

30	SH29	Yellow	Shunt signal on signal no.6
31	S31	Red	Dn Main starter signal on Line No.7
32	C31	Red with white dot	Calling on r Signal below Dn main starter signal on Line No.7.
33	SH31	Yellow	Shunt signal below Dn main starter signal on line No.7
34	S33	Red	Dn starter signal on line No.8.[KK loop].
35	C33	Red with white dot	Calling on Signal Below Dn Starter signal on Line No.8 [KK loop].
36	SH33	Yellow	Shunt signal below Dn starter signal on Line No.8 [KK loop].
37	SH28	Yellow	Shunt signal on Line No.4 on S.28.
38	S42	Red	Up Advanced Starter Signal [for KK line]
39	S44	Red	Dn Adv. Starter signal for Dn Line..
40	S46	Red	Dn.Adv. Starter for middle line.
41	SH7	Yellow	Shunt signal for line No.1 to 8 on middle lien [KTV end]
42	SH9	Yellow	Shunt signal for line No. 1 to8 on Dn line [KTV end] .
43	SH 11	Yellow	Shunt signal for line No. 1 to8 on KK line [KTV end] .
44	S36	Red	Dn intermediate starter signal on DN line
45	C36	Red with white dot	Calling on signal below Dn intermediate starter signal No. S36.
46	SH36	Yellow	Shunt signal below Dn intermediate starter signal No. S36
47	S34	Red	Dn common loop starter on Line No.1
48	C34	Red with white dot	Calling on signal below Dn common loop starter on Line No.1
49	SH34	Yellow	Shunt signal below Dn common loop starter on Line No.1
50	SH32	Yellow	Shunt signal on Line No.2
51	S30	Red	Dn Starter signal on Line No.3
52	C30	Red with white dot	Calling on signal below Dn. starter signal No.S30 on line No.3
53	SH30	Yellow	Shunt signal below Dn. starter signal No.S30 on line No.3
54	S28	Red	Dn starter signal on line No.4
55	C28	Red with white dot	Calling on signal below Dn. Starter signal No. S28 on line No.4
56	S26	Red	Dn starter signal on line No.5
57	C26	Red with white dot	Calling on signal below Dn. Starter signal No.S26 on line No.5

58	SH26	Yellow	Shunt signal below Dn. Starter signal No.S26 on line No.5
59	S24	Red	Dn Main starter signal on line No.6
60	C24	Red with white dot	Calling on signal below Dn Main starter signal No.S24 on line No.6
61	SH24	Yellow	Shunt signal below Dn Main starter signal No.S24 on line No.6
62	S22	Red	Up Main starter signal on Line No.7
63	C22	Red with white dot	Calling on signal below Up Main starter signal No.S22 on Line No.7
64	SH22	Yellow	Shunt signal below Up Main starter signal No.S22 on Line No.7
65	S20	Red	Up starter signal on Line No.8.
66	C20	Red with white dot	Calling on signal below Up starter signal No.S20 on Line No.8
67	SH20	Yellow	Shunt on signal below Up starter signal No.S20 on Line No.8

3. **SIGNAL INDICATION:**

The aspect of signal as obtained at any time is shown on the panel on the signal indication[along side of the track]

4. **ROUTE BUTTONS:**

1. **DESCRIPTION OF ROUTE BUTTONS:**

S/N	Button Number	Colour	Description
1	L1 UN	White	Route button for UP home signal set to UP Main for Line No.1.
2	L1 UN1	White with Black dot	Common route button for UP & Dn home signals set to sand hump or APSWC siding and UP and DN calling on signal and shunt movement..
3	L1UN2	White with Black dot	Common route button for UP home Signal for :/No.1 set to middle line .
4	L2 UN	White	Common route button for UP home signal and Calling on signal for line No.2 setting overlap on UP main line and route button for shunt signal
5	L2UN1	White with Black dot	Common route button for UP & Dn home signals for L/No.2 set to middle line and Calling on signals and Shunt Signals for Line No.2 set to Mid line.
6	L3 UN	White	Common route button for Up & Dn home signals for Line No.3 setting overlap on DN main line..
7	L4 UN	White	Common route button for Up & Dn home signals for Line No.4. Setting overlap on main line respectively.
8	L4 UN1	White with Black dot	Common route button for Up & Dn home signals for Line No.4 setting overlap on Sand Hump/ORL and common route button for calling on signals and

			shunt signal respectively for line No.4.
9	L4UN2	White with Black dot	Common route button for UP & Dn home signals Calling on signals for Line No.4 set to Up line.
10	L5 UN	White	Common route button for Up & Dn home signals for Line No.5 setting overlap on Main line.
11	L5UN1	White with Black dot	Common route button for Up & Dn home signals for L/No.5 setting overlap on overrun line and calling on signal for Line No.5 respectively.
12	L 6 UN	White	Common route button for Up & Dn Home signals for L/No.6 setting overlap on overrun line and Calling on signal for line No.6 and shunt signal respectively
13	L7UN	White	Common route button for Up & Dn Home signals for line No.7 setting on Main line and Calling on signal and shunt signal respectively.
14	L7UN1	White with black dot	Common route button Dn Home signals for line No.7 setting overlap to DN Main line and DN Calling on signal and DN shunt signal for L/No.7..
15	L8UN	White	Common route button for Up & Dn Home signals for line No.8 setting overlap on sand hump and Calling on signal and shunt signal . respectively
16	L8UN1	White with Black dot	Common route button for Up & Dn Home signals setting over lap on sand hump and Calling on signal for line No.8 and shunt signal respectively.
17	L8UN2	White with black dot	Common route button for DN Home signal for L.8 setting overlap to DN line.
18	36UN	White	Common route for S/C/SH(20,22)B, S/C/SH(28,30,34)A, SH32A.
19	41 UN	White	Route button for UP Adv Starter on Up line..
20	41ATUN	White	Common route button to dispatch train from Line No.1,2,3,4,5,7 & 8 to Up line.
21	45UN	White	Route button for Dn Adv Starter on KK line. .
22	45AT UN	White	Route button to dispatch trains on KK line Dn direction for Line No.1,2,3,4,5,7 & 8
23	43UN	White	Route button for Up. Adv. starter on middle line.
24	43AT UN	White	Route button to dispatch trains on middle line Up direction for Line No.1,2,3,4,5,7 & 8.
25	42UN	White	Route Button for Up Adv. Starter on KK line.
26	42 AT UN	White	Common route button to dispatch trains to KK line Up direction from Line No.1, 3, 4, 5,6,7, & 8..
27	44 UN	White	Common Route Button for Dn Adv. Starter on Dn Line..
28	44AT UN	White	Common Route Button to dispatch trains from Line No.1,3,4,5,6,7 & 8 on Dn line.
29	46 UN	White	Route Button for Dn Adv. Starter on Dn. Middle line.
30	46 AT UN	White with black dot	Common route Button to dispatch trains from line No.1,3,4,5,6,7, & 8 to DN Middle line.

CRANK HANDLE PUSH BUTTONS

S/N	Button Number	Colour	Control points.
1	CH 1	Blue	To be pressed to extract crank handle key for operation of point Nos 52,54 & 56.
2	CH 2	Blue	To be pressed to extract crank handle key for operation of point Nos 58 & 60.
3	CH-3	Blue	To be pressed to extract crank handle key for operation of point Nos 62 & 69.
4	CH-4	Blue	To be pressed to extract crank handle key for operation of point Nos 64 & 67.
5	CH 5	Blue	To be pressed to extract crank handle key for operation of point Nos 66.
6	CH 6	Blue	To be pressed to extract crank handle key for operation of point Nos 68 & 63.
7	CH 7	Blue	To be pressed to extract crank handle key for operation of point Nos 61,70, & 72.
8	CH 8	Blue	To be pressed to extract crank handle key for operation of point Nos 51 & 59.
9	CH 9	Blue	To be pressed to extract crank handle key for operation of point Nos 55 & 65.
10	CH10	Blue	To be pressed to extract crank handle key for operation of point Nos 53 & 57.

MISCELLANEOUS PUSH BUTTONS

SL.NO	Button No	Colour	Description
1	SM's EMERGENCY POINT OPERATION KEY	---	This key is to be inserted and operated in the event of Emergency point operation
2	SM's PANEL KEY	---	To lock the control panel to prevent unauthorized operation
3	PANEL PC SWITCH	---	To give control of operation from panel to PC and vice versa
4	ACK FOR SYSTEM FAILURE	GREEN WITH RED DOT	To be pressed to silence system failure buzzer
5	GROUP TRANS PUSH BUTTON	WHITE WITH BLACK DOT	To be pressed to initiate slot of crank handle or LC gate operation along with concerned slot/Crank Handle/L.C.Gate button.
6	GROUP RELEASE PUSH BUTTON	WHITE WITH BLACK DOT	To be pressed to withdraw/Normalize the control of slot of crank handle or LC gate operation along with concerned slot/Crank Handle/L.C.Gate push button.

7	POINT GROUP NORMAL PUSH BUTTON	BLACK WITH RED DOT	To be pressed to initiate' NORMAL setting of point along with concerned point push button
8	POINT GROUP UP REVERSE PUSH BUTTON	BLACK WITH RED DOT	To be pressed to initiate' REVERSE' setting of point along with concerned point push button
9	EMERGENCY ROUTE RELEASE PUSH BUTTON	WHITE WITH RED DOT	To be pressed for emergency Route Release
10	SIGNAL CANCELLATION PUSH BUTTON	RED	To be pressed for canceling a signal which is already taken 'OFF' or to release a route after passage of a train.
11	SIGNAL LAMPFAILURE /POINT FAILURE ACKNOWLEDGEMENT	RED WITH WHITE DOT	To be pressed for acknowledging signal lamp/point failure
12	EMERGENCY POINT OPERATION	BLACK WITH RED DOT	To be pressed to operate the point when concerned point zone track circuit failed.
13	BUTTON HELD ACKNOWLEDGEMENT PUSH BUTTON	WHITE WITH RED DOT	To be pressed for silencing button held buzzer in case of any push button remains pressed after the button is released.
14	MID LINE L.V RESET BUTTON (SCMN END)	RED	To be pressed for initiating reset for Axle counter for Middle Line section PDT-SCMN
15	UP LINE L.V RESET BUTTON (SCMN END)	RED	To be pressed for initiating reset for Axle counter for UP section PDT-SCMN
16	DN LINE L.V. RESET BUTTON (SCMN END)	RED	To be pressed for initialling reset for Axle Counter sections (SCMN-PDT)
17	K.K.LINE L.V. RESET BUTTON (SCMN END)	RED	To be pressed for initialising reset for Axle Counter section (PDT-SCMN)
18	SIDING CONTROL BUTTON	BLACK	To be pressed for Controlling Siding Key.
19	RESET PUSH BUTTON FOR DN LV KTV END	RED	To be pressed for initialling reset for Axle counter for DN section PDT-KTV
20	RESET KEY FOR UP LV KTV END		Reset key to be inserted on the panel for resetting the Axle counter for section PDT-KTV
21	RESET KEY FOR DN LV KTV END		Reset key to be inserted on the panel for resetting the Axle counter for section PDT-KTV
22	PREP RESET		Yellow indication will appear on the panel after resetting.
23	UP LV PERMISSION GRANTING BUTTON	GREEN	To be pressed for granting permission to SCMN for UP LV PDT-SCMN section
24	DN LV ACK BUTTON	GREEN	To be pressed for acknowledging the permission received from SCMN for

			UP LV PDT-SCMN section
25	UP BLOCK RELEASE PUSH BUTTON	CHOCOLATE WITH RED DOT	To be pressed for normalizing the Block instrument for section KTV-PDT.
26	DN BLOCK RELEASE PUSH BUTTON	CHOCOLATE WITH RED DOT	To be pressed for normalizing the Block instrument for section SCMN-PDT
27	DN train arrival Acknowledge KK line section PDT-SCMN	Choclate with white dot	By pressing the push button, the indication and buzzer stops and the block instrument can be normalized
28	UP train arrival Acknowledge KK line section PDT-KTV	Choclate with white dot	By pressing the push button, the indication and buzzer stops and the block instrument can be normalized
29	DN train arrival Acknowledge Mid line section PDT-SCMN	Choclate with white dot	By pressing the push button, the indication and buzzer stops and the block instrument can be normalized
30	UP train arrival Acknowledge Mid line section PDT-KTV.	Choclate with white dot	By pressing the push button, the indication and buzzer stops and the block instrument can be normalized

1.5 MICROLOCK INDICATION:

A Micro lock indication is provided on the top of the panel for indicating which system of Microlock is working. This EI unit is consisting of two Microlock systems called system' A' and system' B ,. These two systems status (ON/0FF) will be indicated separately on the panel. If the Microlock indication is ON 'GREEN' indication will appear and if OFF 'RED' indication appears. If any one of the 'ON' line system fails automatically OFF line system will change to ON line with a gap of 120 seconds. A system failure buzzer is provided on the panel board. To stop the Microlock unit buzzer. SM on duty has to press the system failure acknowledgement button provided on the top of the panel and intimae the same to ESM/SSE/JE in charge for rectification of the failure. Whenever the system changes from A to B or B to A SM on duty has to release all crank handle, L C Gate controls.

1.6 POINT FAILURE INDICATION (RED)/POINT FAILURE BUZZER/POINTS FAILURE MUTING BUTTON (RED WITH WHITE DOT)

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

1.7 FAILURE OF LED SIGNAL LAMP AND MUTING BUTTON

All signals are provided with LED signal lamps. In case of failure of LED signal 'RED' light on panel along with audible buzzer will be appeared which can be stopped by pressing the acknowledgement button. But the 'RED' light will glow until the LED lamp is replaced. For rectification of failure SM on duty should inform the ESM/SSE/JE.\

1.7.1 DOWN TRAIN ARRIVAL INDICATOR & UP TRAIN ARRIVAL INDICATOR:

Down and UP train arrival indicators are provided on the top of the panel. The indication 'GREEN' will appear on arrival of the train. This will remain illuminated till the concerned route is released.

1.7.2 DOWN TRAIN ENTERING INDICATOR & UP TRAIN ENTERING INDICATOR:

A 'WHITE' indication will appear on the panel when the line clear has been obtained. Advanced starter taken off and train entered the block section. This indication will remain illuminated till such time the block instruments of the concerned block section is made normal.

In the event of failure of Block Instrument/Advanced starter no such indication appears on the panel.

1.8 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.

1.8.1 CALLING ON COUNTER:

The calling on signal counter provided on the panel registers a consecutive higher number every time a 'CALLING ON SIGNAL' is taken off. The Station Master must record the last number registered on the counter while taking over/handing over duty

1.9 EMERGENCY ROUTE RELEASE INDICATION (WHITE) EMERGENCY ROUTE RELEASE BUTTON (WHITE WITH RED DOT):

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

When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), the concerned signal must be put back to Danger by simultaneously pressing the signal cancellation button and concerned signal button.. After this first the emergency route release button (White with Red Dot) positioned on the top of the panel to be pressed after breaking seal and subsequently the concerned signal button is to be pressed releasing the emergency route release button. A white light will be lit indicating that the timer is working. After a lapse of 120 seconds the white light along with the white strip of light will disappear suggesting that the route has been released. In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to release by rectifying the fault. It is to be ensured that after every emergency route release operation S&T staff shall seal the emergency route release button.

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

1.10 EMERGENCY POINT OPERATION (BLACK WITH RED DOT):

Emergency point operation facility is provided to operate the point from the panel in case of failure of point controlling track circuit. A push button (Black with Red dot) for emergency point operation is provided on the top of the Panel. If such operation is necessary, the SM on duty, after ensuring that SM's point Key is 'IN' and no vehicle is standing on the concerned point zone shall press the emergency point operation button along with relevant point button simultaneously. Then keeping point button pressed, emergency point button to be released and the point group normal button or point group

reverse button is to be pressed for operating the point to 'NORMAL or REVERSE.. Every emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

1.11 EMERGENCY GATE RELEASE OPERATION(CHOCOLATE WITH RED DOT)

Emergency gate release operation facility is provided in the panel when the route gets locked due to some failure. For emergency release of gate, the SM on duty shall press signal cancellation button and then emergency gate release button and gate control button No 90 as per requirement. A red flashing (Gate Lock) indication will appear and after a lapse of 120 sec Gate Lock indication will disappear and white light will glow over the emergency gate release button indicating that the operation is matured.

The SM on duty shall then operate push button for gate and group Trans button to release the key from RKT in gate lodge. All such operation shall be registered in the emergency gate operation counter. All such emergency operation shall be recorded in the station diary and in the register meant for it.

1.12 BUTTON HELD ACKNOWLEDGEMENT(WHITE WITH RED DOT)

All push buttons are self restoring type. A button held acknowledgement push button along with a white light is positioned at the top of the panel. When any point, route or signal button gets stuck up in pressed condition, a buzzer will sound along with flashing white light indication. The station master shall stop the buzzer by pressing the button held acknowledgement button (white with Red dot). The buzzer will stop but the flashing white indication of each point , route or signal will continue to glow until the pressed button is normalized. SM on duty shall try to find out the pressed button for normalization or otherwise inform the maintenance staff to rectify.

1.13 OVER LAP TIME RELEASE(WHITE LIGHT)

Separate indications (white light) for each overlap is provided near the starter signal to indicate the free or locked condition of the overlap. This indication light will glow when overlap is locked by any Home signal route and there will be no light when the overlap is free.

The locked indication starts flashing when the approaching train clears the rear end point zone track and occupies the berthing track. After a time lapse of 120 sec the white flashing light will disappear indicating concerned over lap is free.

1.14 <u>TRACK CIRCUIT:</u>

Line No.1 to 8 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 (7M 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 Panel / 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 Panel/VDU at SM's office. When a signal is cleared the route indication 'Yellow' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

1.15 <u>AXLE COUNTER:</u>

Entire Block Section between PDT-SCMN and PDT-KTV for Up line, Middle line, Dn. Line and KK Line are provided with Electronic Axle counters.

FOR SEC: PDT-SCMN:- A pair of Digital axle counter is provided between PDT-SCMN for each line i.e. Up line, Middle line, Dn, Line and KK Line.

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FOR SEC: PDT-KTV:- A pair of Digital axle counter is provided between PDT-KTV for each line i.e. Up line, Middle line, Dn, Line and KK Line

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

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

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

NOTE:

Before taking off reception and dispatch signals for Up and Down directions the SM on duty should ensure that the entire route including overlap and berthing portion is clear of all obstructions by observing the Track indication/Axle counter indication. The indication of track 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.

2.0 STATION MASTER'S PANEL CONTROL KEY

The panel is fitted with Station Master's lock up key to prevent any unauthorized operation of the panel. The Station Master on duty is the only authorized person to operate the panel and the panel key must always remain in his custody vide SR 3.36.02 and GR 5.08. The key locks the panel board 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 ASM's key also. However the provisions of SR 3.36.02 shall be followed while replacing signals also.

2.1 CRANK HANDLE KEY RELEASE BUTTON (BLACK):

A crank handle key release button is provided on the panel to facilitate release of crank handle key from RKT 'M' located in SM's office.

2.1.1 CRANK HANDLES

When any point fails to operate normally by the route setting operation or through the concerned point button through panel. 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 CH push button (Blue) and group button(White with Black dot) is provided at the top of the panel board. This button has two indications viz WHITE and RED. The White indication suggests that the crank handle key is in its interlocked position of the panel. This is called "Crank Handle Key 'IN' indication.

The Red indication suggests that the crank handle key is locked and not free for extract from RKT. This is called 'Crank handle key locked' indication. The crank handle is normally kept in a locked box fitted in 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 press

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 panel. 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 pressing concerned CH button and group release button (White with Black dot).

2.2 SETTING OF ROUTE AND TAKING OFF RECEPTION SIGNALS.

For setting a route all the concerned points must be set by operation of relevant point button and group button one at a time in the desired position or by operating signal and route button .As soon as the required points are set to the required position, the concerned signal for the route will clear and a Yellow strip of light will appear on the route confirming that the route is set and locked. The signal 'OFF' indication will appear on the panel.

2.3 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 relevant point button and group button one at a time in the desired position or by operating signal and route button.

To take 'OFF' UP advanced starter, UP 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.

To take 'OFF' the starter signal the concerned signal button is pressed and at the same time common route button to be pressed for two or three seconds and released. This will clear the starter signal and a white strip of light will appear on the route from the concerned starter to advanced starter..

2.4 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 or for admission of train on blocked line.

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 Panel/VDU. The particular route on which train is intended to be received shall be set by operating the point push button and group button individually or by signal and route

buttons pressing or by crank handling in the event of failure of operation of points through panel/VDU. After the route is set, the Calling On signal button 'C-1(A-G)- C-2(A-G) (Red with White dot) shall be pressed (as the case may be) simultaneously along with the concerned route button for 2 to 3 seconds and then released. After a lapse of 120 seconds, the Calling-on signal clears i.e a Yellow light glows at the concerned Calling-on signal on the panel.

NOTE:
SM on duty to ensure that no through signals are given while receiving a train on Calling-on.

2.5 RELEASE/ CANCELLATION OF ROUTE.

Normally when a train is received on any route and dispatched, the route illumination will disappear automatically after passage of the train suggesting that the route is released.
NOTE:-
Up and Dn calling on signals, Up and Dn advanced starters signals are to be manually cancelled after the passage of the train to cancel the route.

2.6 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 button and signal cancellation button(RED) is to be pressed simultaneously.

2.7 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.

2.7.1 UP/Dn Advanced starter signals for Up Line, Middle Line, Dn, Line and KK Line are interlocked with respective Block instrument in LINE CLEAR position.

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

2.7.3 Signals once taken OFF can be put back to ON in case of emergency by pressing the concerned signal button in conjunction with signal cancellation button even when the panel is locked up with Station Master's key.

2.8 PILOTING OF TRAINS IN TO THE STATION YARD

When ever 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 panel 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.

Then the SM on duty shall then hand over the written authority (T/369/3(b) 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.

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

(3) The SM on duty shall ensure the closure of the interlocked gate supported by a private number from the gateman on duty.

2.9 PILOTING OF TRAINS OUT OF STATION YARD:

When starter signal has become defective, the SM on duty shall set the points correctly from the panel 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. He shall also advise the gateman to close the level crossing gate/gates on the route for dispatch of a train.

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 driver 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 driver after the train stopped along with the authorities if any.

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.

(3) The SM on duty shall ensure the closure of the interlocked gate supported by a private number from the gateman on duty..

3.0 SHUNTING

(i) For shunting shunt signals between starter/Intermediate signals are to be used

(ii) For back shunting SH10, SH 8, SH12, SH 8, SH9, SH 11 and SH 7 are provided in the yard for shunting back to the station yard in desired direction. The particular route on

which it is intended to do shunting is to be set by operating the desired points individually from the panel or by pressing the shunt signal button and required route button simultaneously for 2-3 seconds. When the route is set and locked correctly white strip of lights will appear on the route and concerned shunt signal shall display 'OFF' aspect.

3.1 DESCRIPTION OF SIDINGS

While performing shunting in the sidings it should be authorized by issuing T/806 clearly mentioning the limits up to which shunting is permitted as also the lines, occupied in shunting. The relevant provisions of GR 5.14 and SR thereto shall be meticulously followed.

3.2 GOODS SIDING :-

The APSWC sidings are provided at VSKP end of the yard with one side entry. Goods siding and sleeper factory siding are provided towards KTV end and takes off from line No.1, and terminated in to a dead end.

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3.03 DESCRIPTION OF LEVEL CROSSINGS

i) There is a 'C' class manned Non-Interlocked level crossing gate situated at Km 857/27-29 between PDT – KTV. Telephone communication is provided between the Gate lodge and the SM's office of PDT.

ii) There is a 'C' class manned non-Interlocked level crossing gate situated at Km 857/0-1 between PDT-KTV . Telephone communication is provided between the Gate lodge and the SM's office of PDT.

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

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 brain 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.

4.1 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 common 'TRANS' push button and concerned Crank handle control push button simultaneously. 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.

4.2 INSTRUCTIONS REGARDING STABLING OF TRAINS ON RUNNING LINES.

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

5.0 EMERGENCY OPERATIONS

The following are the instructions for emergency operations.

5.1 CANCELLATION BUTTON AND VEEDER COUNTERS

5.11 For the purpose of the emergency operations there is an emergency Route cancellation button (provided at the top of the panel) and also there is a veeder counter for counting emergency operations involving the concurrent operation of the emergency route cancellation button. The Station Master on duty must press
the emergency route button along with concerned signal button in accordance with 1.9 confirming to the section for which emergency route releases is desired. 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.

5.12 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:

5.13 EMERGENCY OPERATION OF POINTS (IN CASE OF POINT ZONE TRACK CIRCUIT FAILURE):

The SS/Dy.SS on duty can operate points from panel; in case of point zone track circuit fails. The Station Master on duty after physical verification insert the SS/Dy.SS's emergency point key and turn into get the key. 'IN' position keeping the Emergency point key in that position. The SS/Dy.SS on duty must press the individual point button along with emergency point operation button (Black with Red dot). He shall then release the emergency point operation button only and press the point group Normal or Reverse button as per requirement keeping the individual point button in pressed condition. Points will be set to Normal or Reverse position as per operation. During the initiation 'RED' indication will appear above the emergency operation button. This operation will be registered in and emergency point operation counter placed above the emergency point operation button will increase in number by one.

5.2 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 1.9 to be followed.

6.0 LOCKING OF RELAY ROOM:

The Relay room should be kept locked with a double lock.(Two independent locks) as necessary vide OM 1.14, 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. When ever 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.

6.1 INSTRUCTIONS REGARDING STABLING OF TRIANS ON RUNNING LINES:

Whenever a running line is not used either by not passing a train or by stabling a train for a duration of more than ten hours the use of the said running line for passing the trains, in through and out at the station has to be done with a lot of care and diligence and the SM on duty shall meticulously observe the proper functioning of the track circuits (occupancy/clearance) while admitting in, and out of the track circuited area and such observation should continue for a minimum of four to five trains thereafter. In the SM on duty is not satisfied with the proper functioning of the track circuit on which the train was earlier stables, the signals leading to the line shall be suspended and the S&T maintenance staff to be informed for attending to this.

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

7.1 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.

7.2 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.

8.0 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.

8.1 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 irrespective of the position of the Buttons the Panel in term of SR 3.68.04(c).

8.2 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).

9.0 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 JE/SSE[Signal of the section should give to the Station Master in writing "Advance Intimation" about this planned work in terms of GR 15.08.01.

10.0 EMERGENCIES:

Notwithstanding 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.

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

11.1 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.

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

11.3 INTERLOCKING OF SIGNALS:

- All running line points are fitted with point machine and are electrically detected by the relevant Home signals and starters.
- Advanced starters are interlocked with respective Tokenless block instrument in LINE CLEAR position.
- Home signals are interlocked with respective tokenless block instrument. The Block instruments cannot be made to normal unless the respective Home signals are in Normal position.
- Signals once taken OFF can be put back to ON in case of emergency by pressing the concerned signal button in conjunction with signal cancellation button even when the panel is locked up with Station Master's key.

11.4 INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

INTERLOCKING WITH HOME SIGNALS:

All the UP and DOWN Home signals are Electrically interlocked with the respective token less Block Instrument so that before the handle of the instrument can be turned from TRAIN COMING FROM position to LINE CLOSED position, all the switches controlling the Home Signals of UP or DOWN direction as the case may be must be in their NORMAL position.

The UP and DOWN Advanced Starter Signals are Electrically interlocked with the respective token less Block Instrument so that these signals cannot be taken OFF until the Handle of the concerned Block Instrument is in TRAIN GOING TO position.

11.5 FAILURE OF COMMUNICATIONS – FAILURE OF BLOCK INSTRUMETS:

In the event of suspension / failure of Token Less Block instrument line clear transaction shall be made on block telephone attached to Block instrument exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).

In the event of. suspension / failure of Token Less Block instrument and Block telephone attached to Block instrument line clear transaction shall be made on station to station Magneto phone exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).

In the event of. suspension / failure of Token Less Block instrument, telephone attached to Block instrument and station to station magneto phone, line clear transaction shall be made on control telephone exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).(C).

In the event of. failure of all communications trains shall be worked in terms of SR 6.02.04.

12.0 SUSPENSION OF LAST STOP SIGNALS

12.1 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 Piloted Out.

12.2 The Station Master of duty shall not grant LINE CLEAR unless he has ensured that the lamps of fixed signals which apply to the trains are glowing. If the Signal Lights are not glowing the Station Master on duty shall before giving LINE CLEAR shall initiate action in accordance with the procedure prescribed in GR 3.61 to 3.72 and relevant SR's vide GR 3.49(4).

13.0 NORMALISATION OF THE BLOCK AXLE COUNTER AND OF BLOCK WORKING BY RESETTING FEATURE

13.1 Axle counters are provided on UP, DN line, Middle line and KK line between SCMN-PDT and PDT-KTV sections..

13.2 The occupation and clearance of the axle counter section are indicated on panel by 'Red' and 'Green' lights.

13.3 If any Block proving Axle counter section fails, the Last stop signal at the rear station can not be taken 'OFF' and Block instrument at advance station can not 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.

13.4 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.

13.5 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'.

13.6 A resetting arrangement for the resumption of the track circuit by means of axle counter under failure condition 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.

13.7 Reset arrangements are provided in the operation cum indication panel in the SM's office for sections PDT-SCMN and PDT-KTV with DLBI/TLBI. The resetting key and permission granting button on the resetting panel should normally be kept sealed by the maintainer and SM will inform the maintainer for resealing the same for every such operation of the resetting button and shall be recorded giving details of the date of use, train number, time, number registered on the counter and reasons for resetting and initial each such entry.

14.0 RESETTING OF DIGITAL AXLE COUNTER WHEN FAILED (FOR SECTION PDT-KTV AND PDT-SCMN]

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 Pirate Number with the sending station.

As Digital Axle counters are provided as LVCD in Block section, 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 (Yellow) are provided in the reset box.
The procedure to be followed for re-setting by both of sending end and receiving end individually is as follows.

i.) Insert SM's LV reset key turn right
ii.) Press LV reset button provided on the panel
iii.) Release SM's LV reset key and reset button

iv.) Turn left the SM's LV reset key and remove it.
v.) The Axle counting system obtains preparatory reset state and preparatory reset indication (Green) glows on the panel.
vi.) The counter reading increases by one count after a gap of 5 seconds approximately.
vii.) The counter reading should be recorded
viii.) 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.

15.0 SIGNAL LIGHTS

The station Master on duty at 00.00 Hrs (2nd Night shift) must also ensure from Panel board that all the signal lights are glowing properly and brightly. This fact must be recorded in the Diary under a separate entry and confirm to the section controller on duty.

16.0 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.

17.0 TELECOMMUNICATIONS

The station is equipped with the following telecommunication facilities for train operations.

(a) The station is connected to PDT-SCMN and PDT-KTV train control Circuit.
(b) Telephone attached to SGE type Lock and Block and Tokenless Block Instruments for sections PDT-SCMN and PDT-KTV.
(a) Railway Auto telephones of VSKP exchange is provided at the station.
(b) Section control phone for section VSKP-WMY-DVD-VSKP-KTV [VSKP COMPLEX BOARD].
(c) Section control phone for section OEC-KRPU-KK single line section.
(d) Telephone attached to SGE type lock and block instruments connected to adjacent block station KTV T& SCMN.
(e) Telephone attached to tokenless block instruments connected to adjacent block section KTV&SCMN.
(f) Magneto phone connection with adjacent block station KTV&SCMN is also provided.
(g) Traction power control circuit for section VSKP-PSA.
(h) Traction power control circuit for section fOEC-KRPU.
(i) Magneto phone connection with level crossing gates at KM 857/0-1 and 857/27-29.
(j) Magneto phone connection with either end of the yard for crank handle release/transmission at Down CH Location No.1,2,3 and Up CH location No.1,2,3 & 4.
(k) VHF set provided at the station.
(l) BSNL telephone provided at station.
(m) Telephone provided with APSWC siding.

WORKING OF POINTS – POSITION OF POINTS:

The normal position of all points is shown in the Station Working Rule Diagram No.SI/WRD 23084 Alt'D' and also in the Panel provided and VDU in the Station Master's office.

All crossover points are independent points on the running line and are worked by Electric Point Machines. The point machines have inbuilt locking and detection arrangements. These points are remotely, controlled from the panel installed in the Station Master's office.

The operation and indication on the point and their route locking over them is already explained in earlier paras of Appendix 'B

All siding entrance points (on the running lines) and the corresponding derailing switches on the sidings are succession and locally operated by the hand levers provided at site. The entrance points are provided with hand plunger locks with key locking arrangements, the keys being released from the RKT instruments, the 'Siding Entrance Points Controlling Key' is interlocked with the interlocking and signalling system through RKT as explained in earlier paras of Appendix 'B'.

16.0 NORMAL POWER SUPPLY:

16.1 The station works on 230 volts single phase power supply. The normal power supply is from the Auxiliary Transformer connected to OHE traction distribution.

16.2 The standby power supply is given by IPS.

APPENDIX 'B'

16.3 NORMAL POWER SUPPLY – MAINTENANCE FOR POWER SUPPLY POWER FAILURE AND REPORTING SUCH FAILURES:

Normal power supply to the signalling and interlocking installations at this station is drawn from the traction power supply source (at 230V – 50Hz). Whenever traction power supply fails, the Station Master on duty has to operate the changeover switch (provided in the Assistant Station Master's office) connecting the power supply from the healthy source to the installation.

16.4 The Station Master must however, maintain record of power failure either traction or local power supply and he must promptly report the failure of any one or both the power sources immediately to the Section Controller and the concerned electrical and S&T maintenance staff.

FAILURE OF COMMUNICATIONS – FAILURE OF BLOCK INSTRUMETS:

i) In the event of suspension / failure of Token Less Block instrument line clear transaction shall be made on block telephone attached to Block instrument exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).

ii) In the event of. suspension / failure of Token Less Block instrument and Block telephone attached to Block instrument line clear transaction shall be made on station to station Magneto phone exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).

iii) In the event of. suspension / failure of Token Less Block instrument, telephone attached to Block instrument and station to station magneto phone, line clear transaction shall be made on control telephone exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).(C).

iv) In the event of. failure of all communications trains shall be worked in terms of SR 6.02.04.

27.0 **POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS**

Power signaling and interlocking installations and the ancillary field units are fed from the following sources of power supply.
i] Normal supply from UP AT/ DN AT connected to OHE traction distribution.[230V 50HZ].
ii] Stand by supply – From AP Transco [Single-phase 230V-50 HZ].

Normal power supply [Single-phase 230V-50 HZ]. to the signalling and interlocking installation at the station is drawn from the traction power sources. Whenever traction power supply fails the SS/Dy. SS on duty shall operate the change over switch provided in the SM's office connecting the power supply from the healthy sources to the installation.
The SS/Dy. SS on duty however maintain the record of power failures either of the traction supply or local supply and he must promptly report the failure of any one or both the power sources immediately through the section controller and to the concerned Elect. Staff and S&T maintenance staff.
[I].CLS power panel with Rotary change over switch is provided in the SM's office with the three power supplies viz., UP AT , DN AT and local for the changing the switch to the required supply position. The availability of the supply is indicated by luminous indicators above the circuit breaker for each supply.
[ii] Normally the switch will be kept towards UP AT/DN AT position. Whenever power block is to be given on the line the on duty SS/Dy. SS on duty must ascertain that power is available on the other AT and change over the switch to the desired position.
NOTE: If power block is to be given on the UP line DN AT must be available and vice versa.
[iii]. In case of failure of one of the AT supply without any power block the on duty SS/Dy. SS has to check whether the circuit breaker has tripped [Three circuit breakers are provided in the change over switch board, one for each supply and their normal position is down and when tripped it goes UP.]
In case of failure of both AT supplies without any power block the local supply shall be utilized by operating the change over switch. If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any means and a message shall be given to concerned SSE[Elect.] and SSE/PSI[OHE] for prompt rectification.
[iv] When ever there is failure of power supply in one AT the SS/Dy. SS on duty shall take prompt action to inform to all concerned for rectification.
The on duty SS/Dy. SS himself during each shift shall check & test the availability of power supply on both AT.s and make an entry in the station dairy duly initiating for rectification of failure if any.

28.0 **WORKING OF INTEGRATED POWER SUPPLY [IPS], INDICATIONS & ACTION TO BE TAKEN BY SS/Dy. SS ON DUTY:**

Power supply to the signalling installation is fed through Integrated Power Supply System [IPS] installed in the S&T power supply room. The IPS is normally fed through Up AT/Down AT traction power selected SS/Dy. SS on duty. Standby power supply is through AP TRANSCO local supply. One change over switch is provided in the SM's room for selection of out put of either traction power supply or local power supply. The available traction/local supply is fed to the IPS through auto-change over switch provided in IPS.

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

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

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

On duty SS/Dy. SS in each shift shall check and record the readings, indications, etc. in the station dairy duly initiating rectification of failures of IPS System, if any.

In the event of failure of Remote monitoring ASM console due to any reason when both traction power and local power failed the SM on duty shall inform concerned Electrical staff immediately. In case ' call S&T staff ' or 'system shut down' indication appear on the remote monitoring panel of IPS and/ or mal functioning of the remote monitoring panel SM on duty shall inform the same to concerned S&T staff immediately.

NOTE: [I] DOD indicates depth of discharge of battery bank of IPS [ii] In case of failure of all AC supply sources IPS battery bank can provide power supply maximum up to 8 to 10 hours before system shut down indication of IPS.

EMERGENCY OPERATION OF POINTS (IN CASE OF POINT ZONE TRACK CIRCUIT FAILURE):

The SS/Dy.SS on duty can operate points from panel; in case of point zone track circuit fails. The Station Master on duty after physical verification insert the SS/Dy.SS's emergency point key and turn into get the key. 'IN' position keeping the Emergency point key in that position. The SS/Dy.SS on duty must press the individual point button along with emergency point operation button (Black with Red dot). He shall then release the emergency point operation button only and press the point group Normal or Reverse button as per requirement keeping the individual point button in pressed condition. Points will be set to Normal or Reverse position as per operation. During the initiation 'RED' indication will appear above the emergency operation button. This operation will be registered in and emergency point operation counter placed above the emergency point operation button will increase in number by one.

APPENDIX 'B1'

APPENDIX 'B1' TO STATION WORKING RULES OF PENDURTI STATION VISUAL DISPLAY UNIT(VDU)

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

The stand by system (VDU) has provided with the conventional Panel for the operation of Signals, Points, L.C.Gates, Crank Handles, Siding Controls, Resetting of all type of Axle counters and other controls etc. A Mimic yard diagram based on SI plan No. SI/23084 ALT 'D' 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.

2.0 SYSTEM OVERVIEW:

In addition to the Panel an Operator Console consisting of a VDU (a high-resolution 42'' 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) or panel any one may be used for controlling and monitoring the station, However indications on the Station yard mimic diagram of VDU and Panel will be dynamically updated

3.0 SELECTION OF CONTROL:

This VDU (Computer) is provided as a stand by of conventional Panel for the operation of Signals, Points, L.C.Gates, Crank Handles, Siding Controls, Resetting of all type of Axle counters and other controls etc from the Mimic Panel diagram. A Mimic yard diagram based on SI plan No. SI/23084 Alt 'E' will be displayed on the VDU.

One two position switch (Red colored) is provided on the conventional Panel along with the SM's Key used for selection of Panel or VDU called PANEL/PC change over switch.

SM/ASM of the station can select any of the controls, for the selection of one control to another there are certain procedures to be followed for the control transfer. The procedure to be followed as mentioned below.

3.1 PANEL/P.C.KEY and PC CONTROL KEY:

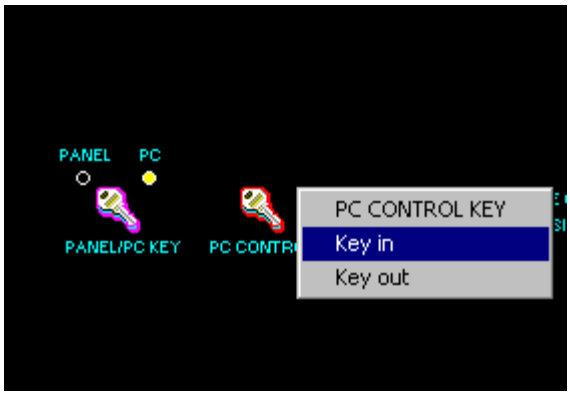
To prevent the unauthorized operation by any person other than SM on duty this facility is provided on VDU. On duty SM need to track the pointer to the "PC CONTROL KEY" icon and click the 'KEY OUT' menu by the clicking left button of the mouse, by this a Password window will appear. SS/SM on duty needs to enter the User name & password and press the 'OK' Button

provided on the Password window. This will lock all the controls in the VDU except the Signal cancellation of all cleared signal routes.

The PC CONTROL key is nothing but a SM' s key in the conventional Panel. In case incorrect password 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.

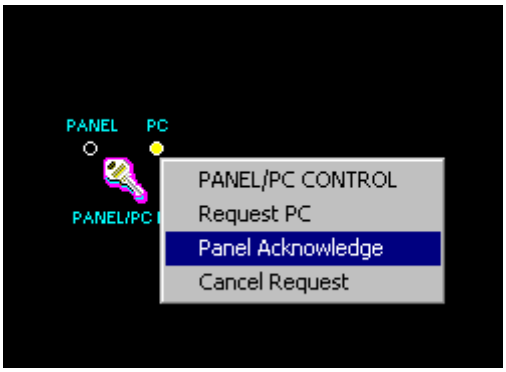
Enter the USER NAME and PASSWORD and click the OK button. Now the VDU is ready for use & the entire yard can be controlled from the VDU.

Similarly select the KEY OUT when the Station Master to Prevent the Unauthorized Operation with User name and password.

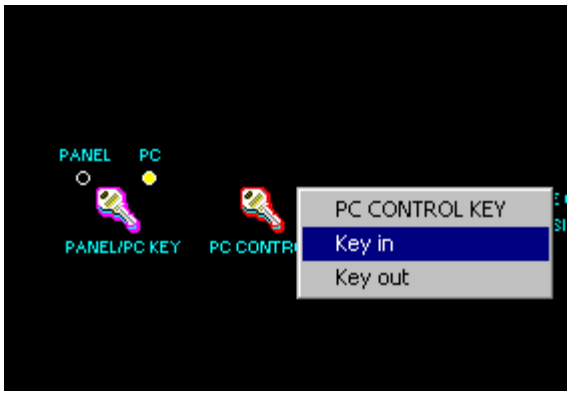


3.2 PANEL TO VDU (PC COMPUTER) CHANGE OVER:

1 Ensure that SM's key is in "KEY IN" position
2 Ensure that PANEL/PC Change over switch is in PANEL mode position
3 Click the PANEL/PC key provided in the left corner of the VDU (A pop-up menu will appear)
4 PANEL/PC CONTROL



5 Click the first menu-PC request (A pass word required window will appear in the center of the screen)
6 Enter the proper USER NAME and PASS WORD in the required text boxes by selecting with mouse, after entering so click the OK button. The user name of this station is ECOR and the pass word for this station is PDT.
7 Now PC indications will start flashing and Panel indications remains steady which means that the control is still with Panel but the PC operator is requesting for transfer of control to PC.
8 Move the PANEL/PC switch to PC side in the conventional panel.
9 Now the PC indication will become steady and Panel indication will disappear.
This indicates that the control is now transferred successfully to PC.
10 Click on the PC CONTROL KEY and click the KEY IN menu (A pass word required window will appear in the center of the screen).
11



12 Enter the proper USER NAME and PASS WORD and click the OK button. Now the OP VDU is ready for use & the entire yard can be controlled from the VDU.

3.3 VDU (PC-COMPUTER) TO PANEL CHANGEOVER:

1 Turn the PANEL/PC change over switch to PANEL mode in conventional Panel.

2. Now Panel indications will start flashing and PC indication remains steady which means that the control is still with PC but the Panel operator is requesting for transfer of control to Panel.

3 Click the PANEL/PC key provided in the left corner of the VDU (A pop-up menu will appear)

4 Click the second menu-PANEL ACKNOWLEDGE (A pass word required window will appear in the center of the screen)

5 Enter the proper USER NAME and PASS WORD in the required text boxes by selecting with mouse, after entering correctly click the OK button.

6 Now PANEL indications will be steady and the PC indications will disappear. This indicates that the control is now successfully transferred to PANEL. Now the overall control is transferred to PANEL. The entire operation can be possible from the panel.

3.4 VDU (PC-COMPUTER) TO PANEL CHANGE OVER (IN PC FAILED CONDITION)

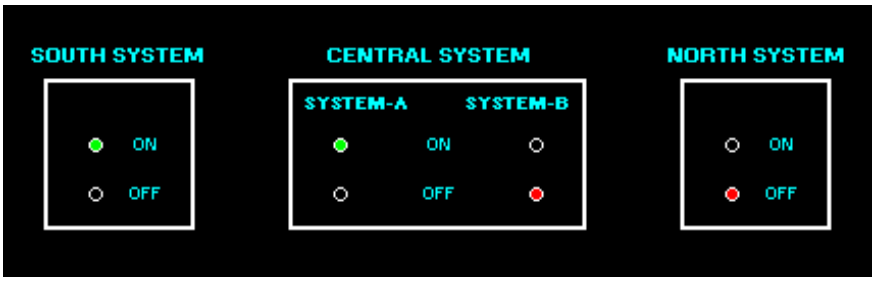
While SM/ASM is operating from PC if PC fails due to any reason either communication, power or any other failure then the control can be transferred to PC by the following method.

1. Turn the PANEL/PC change over switch to PANEL mode in conventional Panel.
2. Now PANEL indications will be steady and the PC indications will disappear. This signifies that the control is now transferred successfully to Panel. Still if the control is not transferred to Panel then switch off the PC completely in this condition and the control will be definitely transferred to Panel.

4.0 OPERATIONALPROCEDURE VDU INDICATIONS.

4.1 MICROLOCK II (EI) INDICATIONS.

In Panel/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 SS/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:

SIGNAL S1

S1 –S 21 (For L/2)
S1 – S 19 (FOR L/1)
C1 – S 21 (For L/2)
C1 – S 19 (FOR L/1)

MAIN SIGNAL CANCEL
MAIN ROUTE RELEASE
CALLING ON SIGNAL CANCEL
CALLING ON ROUTE RELEASE

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/ASM

1 All the Crank handles of the required route related points to be in Key IN

condition.

2 All the related siding control keys to be in Key IN condition.

3 If any Level crossing gates are falling under the route that should be closed (Key IN) and GF of the L.C.Gate to be in reverse position (can be ensured from the Yellow steady indication just near the L.C.Gate control).

4 All the related siding points should be in Normal position (can be ensured from the Yellow steady indication at the siding point on the route).

4.2.4 CANCELLING A ROUTE / EMERGENCY ROUTE RELEASE

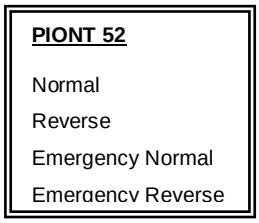
To cancel a signal route when the route is set and the signal in taken-off, click on the signal. After clicking by the left button on the mouse a pop-up menu will appear . Click on the cancellation menu (Main/ Calling on) of the concerned signal, the signal will immediately go to 'ON' aspect, after doing so click on the Route release menu the route locked indication will starts flashing for 120 sec & the Emergency Route Release Indication (RTRELUPKE or DNKE 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 SM Signal cancellation is possible from the VDU even if the SM KEY in conventional Panel or PC Control Key is in out condition.

4.2.5 SHUNT SIGNAL OPERATION:

The same procedure as main signal has to be followed as explained above. To set the signal route for shunt signals SS/SM on duty shall put the pointing device on the Shunt signal icon and left click on the same. A drop down menu will appear indicating different actions that can be selected. After selecting the desired route SS/DY. SS on duty shall left click on it. Desired will be initiated and the Shunt signal will be taken off.

4.3 POINT OPERATION

To Operate the Point the SS/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 PDT. 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 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.

4.3.6 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 PDT. 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.

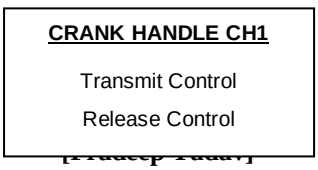
After the completion of the Emergency point operation a specific veeder counter provided in the Domino Panel will change to its next higher number and this number should be recorded in the register provided for this purpose by the SS/S on duty.

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 AND SIDING 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



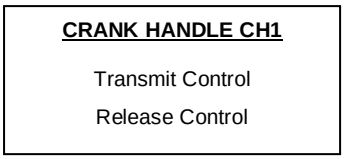
To Transmit the Crank Handle KEY to the field personnel SS/DY. SS on duty has to click transmit control menu. After transmission the 'KEY IN' indication will starts flashing, now the KEY can be extracted from the RKT at site. After extracting the key from the RKT, the 'KEY IN' indication will disappear.

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/SM on duty shall cancel the relevant signal first and then click on the crank handle control button icon provided like the following on the VDU.

On clicking, the 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/SM on duty..

APPENDIX-'C' TO STATION WORKING RULES OF PENDURTI STATION:

[CH.B.SRINIVAS]
DSTE / VSKP

[Pradeep Yadav]
Sr.DEN[South]/WAT

[K.V.S.R.K.KISHORE]
Sr.DOM(M) / WAT

ANTI COLLISION DEVICE (RAKSHA KAVACHA)

-NIL-

APPENDIX- 'D' TO STATION WORKING RULES OF PENDURTI STATION

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

1.0 STATION SUPERINTENDENT/IN-CHARGE:

i. Station incharge is responsible for the efficient discharge of duties by different members of staff at his station. (General Rules 5.01) and OM Para No. 2.02.
ii. Ensuring that the general working of the Station is being carried out in strict accordance with the current rules, procedures and instructions.
iii. Providing prompt and courteous service with utmost safety and security of passengers and employees.
iv. Availability, helpfulness and good conduct of station porters.
v. He shall be responsible for general up-keep of the station.

vi. He shall be responsible for keeping the safety and operating literature including circulars, pamphlets, gazette etc. up to date and these must be explained to the staff working under him and got noted by them.

vii. He shall maintain complete and up to date record of Engg/S&T/TRD restrictions. He shall be responsible for bringing forward the caution order register every Monday.

viii. He shall be responsible for maintaining Accident Register and Accident Charts and keeping these up to date.

ix. He shall maintain figures in respect of the stock and get them relayed to the control in time.

x. He shall investigate all public complaints and send the extracts of the complaint with explanation of the staff and his own remarks to Divisional Office in time. In case of complaints concerning the other department, intimation may be given to the subordinate In-Charge of that department immediately so that action may be taken to avoid recurrence.

2.0 STATION MASTER/ASM/PANEL:

i) He shall come on duty after taking complete rest and shall not perform his duty under the influence of drugs or intoxicants.

ii) When on duty or when called upon to do so, in case of emergency, he shall be responsible for obtaining and granting line clear to trains as per SWR & OM Para No. 2.02 (e).

iii) He shall handle the control panel himself when on duty and shall not permit any unauthrorized person to manipulate panel.

iv) He shall keep the SM's control keys of control panel in his personal custody whenever, he is required to leave his office even for a short duration.

v) While coming on duty, he shall ensure that all points and signals are in good working order and all the registers, records, pertaining to train passage are completed in all respect before taking over the charge.

vi) He shall personally ensure that conditions for taking 'off' the reception signals are fulfilled and the clearance of line is verified as per SWR before actually pressing the relevant button for taking off the signals.

vii) He shall ensure from indications available in the panel that the signals are burning brightly and are giving correct indications.

viii) He shall ensure that proper indications of points, signals, track circuits, crank handle, level crossing gate etc., are displayed at their proper places.

ix) He shall ensure that all Shunting operations are carried out as per extant orders and GR 5.19 and SRs thereof.

x) He shall inform the Technician/JE/SE(sig) in writing or through a written message, any failure of track/signals/points/keys or panels etc. and shall invariably enter these failures in Signals Failure Register.

3.0 TRAFFIC POINTS MAN :

i) He shall obey all lawful orders of the ASM/SM/SS on duty or official in-charge supervising the shunting during the course of shunting operations including coupling or uncoupling of vehicles, wagons, fixing rubber washers, closing wagon doors, displaying hand signals etc.

ii) He shall exhibit danger signal to the official supervising the shunting if vehicles are fouled during the shunting operation.

iii) He shall pilot the trains in case of abnormal working and when ordered by the SS on duty.

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

v) He shall come on duty after taking complete rest and shall not perform duty under the influence of liquor, drugs, or intoxicants.

vi) Neither shall he absent himself from duty nor shall he exchange his duty without prior permission of his superiors.

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

viii. He shall set the points properly in non-interlocked yard and man them for all shunting movements and shall not interfere with the points while the vehicles are standing and or passing over them.

ix) He shall be responsible to see that fouling marks are kept clear after completion of shunting.

x) He shall always commence his duty equipped with hand signal lamps during night and flags during day.

xi) He shall verify the correct setting of route before delivering required papers to the Loco Pilot either though taking 'OFF' the relevant shunt signal or by personal observation.

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

APPENDIX – 'E' TO STATION WORKING RULES OF PENDURTI STATION

ESSENTIAL EQUIPMENT:

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

Sl.No	DESCRIPTION	STATION
1	Detonators	20
2	Hand signal lamps	3 [1 spare]
3	Hand signal flags	3 [1 spare]
4	Skids	6
5	Clamps with pad locks	18
6	Safety chains with pad locks	16
7	Fire & Sand buckets	5
8	Minimax Fire Extinguishers	2

9	Reminder collars	6
10	First Aid box	1
11	Stretcher	1
12	Blanket	1

APPENDIX-'F' TO STATION WORKING RULES OF PENDURTI STATION

1.0 RULES FOR WORKING OF D.K.STATION, IBH, IBS AND OUT LYING SIDING

-NIL-

APPENDIX-'G' TO STATION WORKING RULES OF PENDURTI STATION

[CH.B.SRINIVAS]	**[Pradeep Yadav]**	**[K.V.S.R.K.KISHORE]**
DSTE / VSKP	**Sr.DEN[South]/WAT**	**Sr.DOM(M) / WAT**

1.0 RULES FOR 25 KV AC WILL BE APPLICABLE AT THE STATION

-NIL-

APPENDIX 'H' TO STATION WORKING RULES OF PENDURTI

1.0 WORKING INSTRUCTIONS OF ANDHRA PRADESH STATE WAREHOUSING CORPORATION SIDING (APSWC SIDING) :

1.1 DESCRIPTION:

It is a private siding takes off from Line No.1 (Common loop) at Pendurti station at South end of the yard (i.e. SCMN end).

The siding and Line No.1 is isolated by a derailing switch which is operated by point machine from panel VDU.

The signal diagram No.SI-23084 shows the take off point to private siding. The siding consists only one line.

1.2 When the D S point No.72 is set to APSWC siding. All up and down reception signals on Line No.1 and Up starter of line No.1 held locked in the ON position.

On completion of siding work point will be set to normal.

1.3 WORKING OF THE APSWC SIDING:

(a). DESPATCH OF RAKES INTO THE SIDING:

As soon as the APSWC bound rake arrives, the SS/SM on duty shall advise the siding authorities over the telephone provided for the purpose with the train particulars as train No., No. of wagons and expected time of placement in the siding with date supported by Private Number and also get the confirmation from the siding authority supported by Private Number to the effect that the siding upto the extent of dead end is free from all obstructions.

Siding authorities before issuing such Private Number to the effect of above paragraph shall unlock the siding gate, open and secure in such a way that it will not obstruct/infringe the pushing rake into the siding.

After getting assurance Private Number from the siding authorities, the SS/SM will initiate despatch of rake into siding. Such movement into the siding shall be governed by Shunt signal No.19 after getting assurance from the Siding authorities to the effect.

NOTE:

The rakes while placement into the siding shall be pushed i.e. locomotive at KTV end since no engine escape line is provided in the siding.

In the event of failure of telephone communication between SS/SM and siding authorities a memo shall be sent through TPM to the siding with the description of

train particulars as per preceding paragraph and obtain acknowledgement of siding authorities.

In the event of none available in the siding, the rake will be pushed upto the gate and wait there till the gate is opened for accessibility of the rake into the siding.

As the rake is ready to push into the siding, the SS/SM on duty shall prepare a memo for placement of rake in siding in triplicate & sent through TPM along with the rake in the following format.

FORMAT:

Train No.

No. and type of wagons.

Load or empty.

Date and time of rake arrival.

Date and time of rake ready for placement.

Date and time of rake started from PDT.

Date and time of rake given for placement in siding.

Date and time of loading/unloading completed.

Date and time informed to SS/SM

Date and time of power arrived.

Date and time of BP ready.

Date and time left siding.

Date and time of arrival at PDT with stock load/empty.

Date and time left PDT.

All the three copies of memo shall be signed by SS/SM on duty at PDT and leave a space for signature of siding authorities in token of correctness of the timing which will be useful for calculation of demurrage etc.

Out of the three copies, siding authority whenever available at the time of placement, shall sign all the memos, retain one copy and return back the other two copies to the SS/SM on duty through the same TPM.

b). **RECEPTION OF RAKES FROM APSWC SIDING:**

Immediately on completion of rake handling in siding, the siding authorities will inform over telephone or through memo in the event of failure of telephone regarding rake release. Thereafter, SS/SM shall arrange to send the power with TPM for bringing the rake to PDT. The movement from siding to PDT is governed by the shunt signal No.SH-14, while going to siding shall carry the two remaining memos which were earlier brought from the siding and get the required entries filled and signed by siding authorities and on return shall hand over to SS/SM.

1.4 a). Siding will work round the clock.

b). While rake is drawn-out from the siding the train required to come to a stand at the foot of the stop board provided for the purpose. Thereafter shall be received into the station yard by a TPM on the authority of shunting order. The TPM on duty who is deputed by the SS/SM on duty to bring the train shall not hand over the shunting authority to the Loco Pilot till such time the point is correctly set in required position, clamped and padlocked.

c). All the transactions of rake movement are required to be recorded in a register on from No.OP/T 442 by the SS/SM in charge.

d). While drawing out, the TPM shall bring the memo duly which got signed by siding authority back to station and hand over to SS/SM on duty.

e). Out of two such memo one shall be pasted in SM's dairy against relevant diary entry and the other copy shall be pasted in OP/T442 against the entry of corresponding train/pilot immediately after completion of each transaction.

f). All the commercial formalities of witnessing of seal and opening of wagon, free time allowed for handling etc. shall be followed as per extant orders/circulars in force from time to time.

APPENDIX-G

STATION WORKING RULES FOR 25 KV A.C ELECTRIC TRACTION

PENDURTI STATION YARD

1. **GENERAL & SUBSIDIARY RULES** :

i) The rules applicable to Electrified Section have been given in Chapter XVII of the General Rules and in the Subsidiary rules made hereunder for Electric traction. The General principles governing operation and maintenance of Traction Overhead Equipment, Electric Locomotives, Signal & Telecommunications installations have been given in the A.C. Traction Manual. These rules books and an extract of the relevant paras of A.C. Traction Manual, shall be kept in each station and yard office and all the staff dealing with safe working shall make themselves thoroughly familiar with the same (GR 17.01).

ii) Brief reference to important rules required to be followed by Station / Yard staff in their day to day work has been given in this Appendix. These are, however, illustrative and not exhaustive.

2. **GENERAL SAFETY PRECAUTIONS** :

i) All staff are warned that contact with or very near (within 2 meters, unless protected by a screen as per rules) to live portion of the 25 KV Traction Overhead Equipment is dangerous and shall be strictly avoided.

ii) No work on overhead lines or in the zones within two meters, of any live equipment shall be carried out unless a regular 'permit to work' is obtained from the authorized Traction staff and line is made dead and earthed as per rules (GR 17.04) ACTM 20600 to 20619 Vol.II Pt.I.

3. **SECTIONING DIAGRAM(Station Working Rules Diagram for Electric Traction)**

i) A Diagram No. **TRD/WAT/SWR/226/11** indicating schematically the lines which have been equipped with for Electric traction is exhibited. The diagram also indicates different electrical stations (Sectors, Sub-Sectors or Elementary sections) the Controlling Switches (Isolator Switches or Interrupters) Insulated Over laps and Section Insulators where the over head equipment is electrically separated. The limits of an Electrical section (Sub-Sector or Elementary Section) and are indicated by relevant section. A copy of this diagram is also enclosed with these special working rules and will form part of the same.

ii) For all purposes connected with train movements and power blocks, this diagram is the only authorized document to be referred to. The normal position of various switches is indicated on the diagram.

4. **UNWIRED TRACKS** : No electric locomotive with pantograph raised shall under any circumstances be taken to an un wired section.

5. OPERATION OF SWITCHES :

I) All switching operations shall be carried out in accordance with the instructions of the Traction Power Controller except in respect of Switching operations for local blocks, which may be carried out by authorized traction staff, after they have been granted local block by the Station Master or Assistant Station Master accordance with SR 17.04.09 and ACTM 20600,20601, Vol.II Pt.I.

II) "In case of emergency, Authorised and trained station staff may open Isolator switches under specific instructions of the Traction Power

Controller (SR.17.04.14-B) with exchanging of Private Nos. to perform the operations of the following isolator switches as well as any other isolators within the station limits".

Sl. No.	Isolator No.	Loc. No.	Sl. No.	Isolator No.	Loc. No.
1	SM/195	863/6A	6	SM/200 (N/O)	861/2/1
2	SM/196	863/1	7	SM/201	860/9
3	SM/197	862/19/1	8	SM/202	860/6A
4	SM/198	862/25A	9	SS/340	FGS/1
5	SM/199	862/14A			

6. <u>POSITION OF SWITCH HANDLES</u> :
When a switch is in the closed position, the operating handle of the Switch is at the top.

7. <u>LOCATION OF KEYS OF SWITCHES</u> : The keys for the padlocks of various isolator switches are kept in the ASM's Office in a box with a glass mounted cover (SR 17.04.13). The Station Master shall daily check the locks on switches within the station limits and report any defect or deficiency to the Traction Power Controller.

8. <u>PROCEDURE AND PRECAUTIONS FOR OPERATING ISOLATORS :</u>
The procedure for Operation of Isolator Switches have been given in and SR 17.04.15 and SR 17.04.14 (b) which must be rigidly observed.
Isolator switches may be opened only after ensuring : -

A) If the Isolator switch is on the main line that the adjacent interrupters on either end of Isolators switch have been opened.
B) If the Isolator switch is controlling supply to yard lines, that either the Elementary Section controlled by the Isolator switch is free of raised pantographs of Electric Locomotives, on the Interrupters controlling the supply to the yard lines in question are open (SR.17.04.15).

9. **<u>POWER BLOCKS</u>** :

i) The detailed procedure for obtaining Power Block has been given in (SR.17.04.02, 17.04.03 & 17.04.04) ACTM 20603, 20604, 20611, 20612 & 20613 which must be rigidly followed except in case of emergency.
ii) The sequence of switching operations for granting and canceling the Power block for particular section, are included in the Annexure. These shall be strictly followed by all staff. Failure to follow the sequence indicated, is likely to lead to dangerous consequences. When any isolator switch is changed from its normal position, for staff to work in over head equipment, a danger board shall be exhibited on the switch with the caption "DANGER MEN WORKING". An adequate number or such Danger Boards have been provided at each stations.

10. <u>PROTECTION AT THE TIME OF POWER BLOCK</u> :

i) All sections over which a power block has been granted shall be protected against the entry of Electric Locomotives with pantograph raised from either end during the period (GR 17.04) and ACTM 20620, 20621 to 20627 Vol.II Pt.I strict enforcement of longitudinal and transverse, protection as per the Annexure attached shall be ensured before imposing power block. If there is / are locomotive on the section over which the power block to be given, the Loco Pilot of such,

locomotives shall be given a memo by the Station Master on duty or authorised Traction staff to lower the pantograph and not to raise it until further instructions and an acknowledgement shall be obtained. The Loco Pilots shall not be given instructions to raise the pantograph still the power block is cancelled.

ii) Station master or station staff conducting shunting operation with electric locomotive will ensure that under no circumstances any electric locomotive approaches near the traction structure limiting electrical sections power with the power block may be granted. Limits of each electrical section at a station are shown in the station sectioning diagram.

11. **SECTION INSULATORS** : In order to insulate main and loop lines on different grid in the yard, cross over / turn out connecting main and loop lines or different grids of the yard are provided with section insulators, so that, when one line / or grid is made electrically dead and there be any fault on the same, the other line / grid is not affected. The speed of the electric locomotives with pantograph raised over such section insulators shall not exceed 50 KMPH subject to an other speed restriction which may be in force. When one of two sections separated by a Section Insulator is dead, the pantograph of the electric locomotive on the live section shall not proceed closer than 30 feet (10 meters) towards the section insulator marking the end of the dead section.

12. BREAK DOWNS OF TRACTION OVER HEAD EQUIPMENTS : All the break downs or defects noted or reported on the Traction Overhead Equipment or any other traction equipment including bonding, shall immediately be reported to the Traction Power Controllers (SR 17.03.02) ACTM 20605 Vol.II Pt.I. Necessary caution order should be issued to the Loco Pilot concerned as directed by the Traction Power Controller observing the existing rules regarding issue of Caution Orders.

13. REGISTER OF MESSAGES : All messages relating to faults on the Traction over head equipment, operation of switches custody of keys of out-door switches and other important communications in connection with the operation and maintenance of Traction Overhead Equipment shall be recorded serially in a register by both the sender and the receiver indicating the time at which the messages are received of exchanged (SR 17.04.12) ACTM 20610 Vol.II Pt.I.

14. MOVEMENT OF OTHER THAN ELECTRIC TRAINS

Goods or Passenger trains hauled by other than electric locomotives may be allowed to pass through the dead section subject to the following conditions:-

(a) This has not been prohibited specifically in the power block message.

(b) Other than Electric trains hauled by such engines shall be brought to a stand at the station preceding the station/section at which power block is granted and the Station Master or this station shall satisfy himself by personal inspection that there is no electric locomotive in the train.

(c) He shall also give a Caution Order to the Loco Pilot of such engine or train, warning him of the power block ahead and instructing him to watch for hand signals and observe them.

(d) No Station Master shall give line clear or lower signals for a train to run over a section under power block unless he has received an assurance (supported by Private Number) from the Station Master of the preceding station that there is no electric locomotive or Inspection Car with pantograph raised in the train. (ACTM 20627 Vol.II Pt.I.)

Note: For purpose of this Rule a Dead Electric Engine dispatched as a vehicle shall not be considered as a Electric Locomotive.

15. ELECTRIC LOCOMOTIVE : Provisions included in A.C. Traction Manual must be completed with in case of double heading or banking by electric locomotive and precautions indicated therein must be complied with when dispatching locomotive ACTM 30636 Vol.III.

16. ESM : Any direct contact or close proximity to 25 KV line conductors is dangerous, the station Lamp man/ESM climbing up the Signal post for removing or fixing or cleaning the signal lamp should not carry any long article which may accidentally touch or come in close proximity to live conductors. The ESM shall also be warned against bringing any part or body near live conductors.

17. WORK ON ROOF OF ROLLING STOCK :
No person shall climb on to the top of engine or tenders or on the roofs of carriages or wagons, when these vehicles are located beneath, overhead equipment except, when a regular 'permit to work' has been obtained from authorized traction staff and the overhead equipment is dead and earthed (GR 17.05 (02), at ACTM 10402 & 10403 Vol.I)

18.BLOCK INSTRUMENTS OR ANY OTHER ELECTRICAL, SIGNAL EQUIPMENT:
The Station Master or cabin man on duty must always watch for any unusual working in the Block Instrument or any other Signaling equipment which may arise due to voltage induced from the Traction system. The block instrument or the signaling equipment must be suspended whenever there is any signs of unusual working and the nearest Signal & Telecon Maintenance Inspector contacted to inspect and certify the same. In the event of break of catenary, the Station Master must immediately check up whether all block and Morse signaling equipment are working normal before permitting any train movement (ACTM 10430 Vol II).

19. TELECOMMUNICATION CIRCUITS :
The details of the Telecommunication facilities available on the electrified sections and the use of the same have been given to ACTM 10213, 10429 VolI, 20703 Vol .II Pt.I.

20. ELECTRIC SHOCK :
The Station Masters shall exhibit prominently the instructions issued regarding the treatment to persons suffering from Electric Shock. In the Station, he shall ensure that all class-III staff are familiar with these instructions.

21. FIRE : Regarding Fire on or adjacent to any Electrical equipment refer GR 6.10 & SR there to.

22. Nothing in these rules amends or supersedes any general or subsidiary Rules or instructions included in A.C. Traction Manual. These working rules shall be read as supplement to the aforesaid Rule books and also to the existing station working rules of the station.

23. AMENDMENTS FOR SUPPLEMENTARY CORRECTION SLIPS :
Any amendment to these working rules or any of the Annexure will be notified by Correction slip to the Station Working Rules. The correction slip will be serially numbered and it is the responsibility of SM in charge of a

station to bring the contents to the notice of the staff concerned and take their acknowledgement.

24. CONTINUOUS WATCH BY INSPECTING STAFF : The inspecting staff of operating, Telecommunication and Traction Department , shall make regular checks at all points to which these special working rules are supplied to ensure that the rules corrected up to date and the staff concerned are fully conversant with the rules and abide by them.

NOTE: Whenever the codes "GR" and "SR" appear in these special working Rules please refer to the General and Subsidiary Rules for 25 KV A.C. Electric Traction, Chapter-XIX.

OPERATING STATION WORKING ON A.C. TRACTION AREA.
DO(s) AND DON'T(s)

A) FOR ALL STAFF :

(a) DO(s) :

1. In case of fire on Electric Traction equipment or wires
   i) Inform Traction Power Controller.
   ii) Extinguish Fire by Special extinguishers if available.
   iii) Ensure no water jet is used under any circumstances.

2. Anything unusual on Traction wires or electric locomotives inform Traction Power Controller of nearest Station Master.

3. In any emergency speak to Traction Power Controller on emergency Telephone system (Sockets for connecting emergency Telephone) are provided at interval of approximately every Kilometer and defection to nearest socket is indicated on OHE Mast.

(b) DON'T(s) :

1. Do not approach within a range of 2 meters (Approx. 7 feet of any traction wires on line equipment)
2. Do not work on or near Traction wires or any line equipment unless they are made dead, earthned and 'Permit to Work' obtained from an authorized traction staff.
3. Do not permit unauthorized persons to operate any equipment even if it be for making it dead.
4. Do not disturb any earthing bonding' or tractions wires.
5. Do not enter any switching station or remote control center unless specially permitted and accompanied by authorized Traction staff.
6. Do not attempt to turn the person in contact with live traction wire either by touching him or with the help of wooden bamboo pole or by grabbing his clothing or with the help of rubber gloves if or any other means. Under such conditions contact the TPC switch off the power supply and remove the person in contact with the live traction wire by using wooden bamboo pole on by grabbing his clothes or with rubber gloves if available only after ensuring from TPC that the power supply has been switched off.
7. Do not forget to give artificial respiration to the victim.

B. FOR RUNNING STAFF:

(A) DO(s)

1. Avoid slipping of wheels
2. Load coal or oil in loose outside the electrified zone only.
3. Keep a safe distance of two meters (7 feet) from Traction wires while working on the locomotives.

(B) DON'T (s) :

1. Do not lift or raise your tools towards traction wires, (keep the tools in their respective position immediately after use).
2. Do not load coal on the engine tender to a height more than 4 mtrs. above rail level.
3. Do not take electric locomotive with raised pantograph to any unwired line, power block working limit or near the section insulators at the end of section under power block.

Sr. DOM/G/WAT Sr.DEE/TRD/WAT

4. Do not climb on the locomotive (of any type) on the engine tender for any purpose, while under traction wire unless power is cut-off and permit to work obtained (for watering, use the water column from the ground with the special device provided for this purpose and open tank over by the special devial device provided).
5. Do not place a steam locomotive with chimney directly opposite a traction mast or under any insulator or under bridge.
6. Do not allow long articles like fixing rod, shovel or any other thing to protrude above the engine while on electrified tracks.
7. Do not direct any jet or spray towards the traction wires (Jets of water, if necessary may be used horizontally of size the safety zone of 2 Mtrs (7 feet).

C) FOR STATION MASTER :
(A) DO (s) :

1. Ensure all staff are conversant with safety precautions.
2. Report defects in traction wires or any electric locomotives of Electric Multiple Unit promptly to the traction power controller.
3. Keep sufficient number of button collars and ensure safety understand their use.
4. Ensure fitting of button collars to the points and signal buttons which give access to selection under power block.
5. Observe procedure given in Station Working Rules for 25 KV A.C. Electric Traction while operating Isolator switches.
6. Ensure safe custody of isolator switch keys.
7. Ensure that traction power staff protect sections from all directions by banner flag during power block
8. Suspend working of block and signals if single of unusual working are noticed always check block instruments and signaling equipment seen by breakdown in traction wires occurs.

(B) DON'T (s) :

1. Do not permit an electric locomotive or multiple unit with raised pantograph to approach any section under power block beyond (Power block) working limit or near section insulators.
2. Do not permit any crane to work adjacent to live with traction wires.
3. Do not permit your staff to approach live traction wires within the danger zone of 2 mtrs. (approximately 7 feet)
4. Do not permit electric locomotive with raised pantograph to enter any unwired section.
5. Do not take off signals for direct reception for any electric engine or train, if there is a power block within the adequate distance of the signal.

NOTE: This Appendix-G supersedes the previous appendix-G.

EAST COAST RAILWAY
WALTAIR DIVISION

APPENDIX 'G'

TO

SWR

OF

PENDURTI

(Drg. No. WAT/TRD/SWR/PDT/226/11)

Sr. DOM/G/WAT Sr.DEE/TRD/WAT

EAST COAST RAILWAY

Office of the
Dy. Chief Electrical Engineer (Con)
Visakhapatnam – 530 004

Phone: (O) 83140 (Rly) / DOT: (0891) 2746284
(R) 83141 (Rly) / DOT FAX: (0891) 2746284

No. EL/CON/VSKP/SWR/DRG/ Dt. 15.11.2011.

To
The Sr. Divisional Operations Manger (G),
East Coast Railway, Waltair.

Sub:- Appendix 'G' to SWR of Pendurti in connection with construction of 4th Line between Kottavalasa and Simhachalam North.

Ref:- SWR Drg. No. WAT/TRD/SWR/PDT/226/11.

Encl: As above.

Dy. Chief Elect. Engineer (Con) VSKP

Sr. DOM/G/WAT Sr.DEE/TRD/WAT

Sr. DOM/G/WAT Sr.DEE/TRD/WAT

Station Working Rules are for PENDURTI Station for 25 KV AC Traction

These Rules are to be read alongwith existing Station Working Rules and Annexures

S. No	Description of Electrified Section	Steps or Precautions to be taken during Power Bock in respect of Electric Locos Hauling Trains or running Light or Standing with Pantograph raised		Sequence of Switching Operation for granting Power Block	Sequence of Switching Operation for Restoring Power
		Longitudinal Protection	Transverse Protection		
1	2	3	4	5	6
A	**SECTOR**				
I	**Sector between Simhachalam North/TSS to Kottavalasa/SP on Up Line, Middle Line, Down Line and KK Line** **Up Line:-** E/Sections X-171, X-172, 20501, 20503, 20505, 20507, X-340, 21501, 21503, 21505. **Middle Line:-** E/Sections 20301, 20302, 20303, 20304, 20305, 21701, 21702, 21703. **Down Line:-**	1)Line clear shall not be granted / obtained to / from Simhachalam North for Electric Trains / Locos on Up Line, Middle Line, Down Line and KK Line. 2)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on Up Line, Middle Line, Down Line and KK Line. 3)Concerned Reception, Dispatch and Shunt Signals shall be kept at Danger for Up Line, Middle Line, Down Line and KK Line.	Nil	1)Ensure BM-01, BM-69 are in open position at Kottavalasa/SP. 2)Ensure SM-218 at Loc. 846/28/1 on Kantakapalli-Kottavalasa Section is in open position. 3)Open CB/92 at Simhachalam North/TSS.	1)Close CB/92 at Simhachalam North/TSS.

1	2	3	4	5	6
	E/Sections 20202, 20204, 20206, 20208, 22004, 21704, 21708. **KK Line:-** E/Sections 20601, 20602, 21801, 21802, 22006.				
B	**SUB SECTORS**				
1	Up Sub-sector from Simhachalam North/TSS to Pendurti/SSP (i.e. E/Sections X-171, X-172, 20501, 20503, 20505, 20507, X-340)	1)Line clear shall not be granted / obtained to/from Simhachalam North for Electric Trains / Locos on Up Line. 2)Admission / Dispatch of Electric Trains / Locos is prohibited on Line Nos.1&2. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 52A&B, 66A&B and 59A&B shall be kept in Normal Position. 2)Point Nos. 51A&B shall be kept in Reverse Position.	1)Ensure SS/170 at Location No. RY/27 at Reception Yard is in Open Position. 2)Ensure SM/85 at Location No. 870/27A at Simhachalam North shall be in open position. 3)Open BM-205 at Simhachalam North/TSS. 4)Open BM-213 at Pendurti/SSP.	1)Close BM-213 at Pendurti/SSP. 2)Close BM-205 at Simhachalam North/TSS.
2	Up Sub-sector from Pendurti/SSP to Kottavalasa/SP (i.e. E/Sections 21501, 21503, 21505)	1)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on Up Line. 2)Concerned Reception Signals shall be kept at Danger.	1)Point Nos. 51A&B shall be kept in Normal Position.	1)Ensure BM-69 at Kottavalasa/SP is in Open Position. 2)Open BM-215 at Pendurti/SSP. 3)Open BM-68 at Kottavalasa/SP.	1)Close BM-68 at Kottavalasa/SP. 2)Close BM-215 at Pendurti/SSP

1	2	3	4	5	6
3	Middle Line Sub-sector from Simhachalam North/TSS to Pendurti/SSP (i.e. E/Sections X-112, 20301, 20302, 20303, 20304, 20305)	1)Line clear shall not be granted / obtained to / from Simhachalam North for Electric Trains / Locos on Middle Line. 2)Admission / Dispatch of Electric Trains / Locos is prohibited on Line Nos. 3&4.. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 52A&B, 54A&B, 58A&B, 66A&B shall be kept in Normal Position. 2)Point Nos. 59A&B shall be kept in Reverse Position.	1)Ensure SM-40 at Loc. No. 870/24A at Simhachalam North is in Open Position. 2)Open BM-203 at Simhachalam North/TSS. 3)Open BM-211 at Pendurti/SSP.	1)Close BM-211 at Pendurti/SSP. 2)Close BM-203 at Simhachalam North/TSS.
4	Middle Line Sub-sector from Pendurti/SSP to Kottavalasa Yard and Line Nos. 3&4 of Kottavalasa Yard to Kottavalasa/SP on Down Line (i.e. E/Sections 21701, 21702, 21703, 21704, 21706, 21708)	1)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on Middle Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 59A&B, 57A&B, 53A&B, 51A&B shall be kept in Normal Position.	1)Ensure SM-218 at Loc. 846/28/1 on Kantakapalli-Kottavalasa Section is in open position. 2)Open BM-217 at Pendurti/SSP. 3)Open BM-68 & BM-72 at Kottavalasa/SP.	1)Close BM-68 & BM-72 at Kottavalasa/SP. 2)Close BM-217 at Pendurti/SSP.
5	Down Line Sub-sector from Simhachalam North/TSS to Pendurti/SSP (i.e. E/Sections 20202, 20204, 20206, 20208)	1)Line clear shall not be granted / obtained to / from Simhachalam North for Electric Trains / Locos on Down Line. 2) Admission / Dispatch of Electric Trains / Locos is prohibited on Line Nos. 5&6. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 56A&B, 54A&B, 58A&B, 60A&B and 65A&B shall be kept in Normal Position.	1)Ensure SS/101 at Loc. 868/1001 at Simhachalam North is in open position. 2)Open BM-202 at Simhachalam North/TSS. 3)Open BM-210 at Pendurti/SSP	1)Close BM-210 at Pendurti/SSP 2)Close BM-202 at Simhachalam North/TSS.

1	2	3	4	5	6
6	Down Line Sub-sector from Pendurti/SSP to Kottavalasa Yard and Line Nos. 5&6 of Kottavalasa Yard to Kottavalasa SP on KK Line (i.e. E/Sections 22002, 22004, 22006)	1)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on Down Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 57A&B, 55A&B, 53A&B shall be kept in Normal Position.	1)Ensure SS/103 at Loc. No. 0/16B at Kottavalasa is in open position. 2)Ensure SS/103A at Loc. No. 853/11 at Kottavalasa is in open position. 3)Ensure BM-01 at Kottavalasa/SP is in open position. 4)Open BM-220 at Pendurti/SSP. 5)Open BM-72 at Kottavalasa/SP.	1)Close BM-72 at Kottavalasa/SP. 2)Close BM-220 at Pendurti/SSP.
7	KK Line Sub-sector from Simhachalam North/TSS to Pendurti/SSP (i.e. E/Sections 20601, 20602)	1)Line clear shall not be granted / obtained to / from Simhachalam North for Electric Trains / Locos on KK Line. 2) Admission / Dispatch of Electric Trains / Locos is prohibited on Line Nos. 7&8. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 56A&B, 60A&B and 65A&B shall be kept in Normal Position.	1)Ensure SM/180 at Loc. No. 869/1011A at Simhachalam North is in Open Position. 2)Ensure SM/200 at Loc. No. 861/2/1 3)Open BM-206 at Simhachalam North/TSS. 4)Open BM-209 at Pendurti/SSP.	1)Close BM-209 at Pendurti/SSP. 2)Close BM-206 at Simhachalam North/TSS.
C	**ELEMENTARY SECTIONS**				

1	2	3	4	5	6
1	Up E/Section 20505 between SM/185 and SM/198 of Simhachalam North-Pendurti Section.	1)Line clear shall not be granted / obtained to/from Simhachalam North for Electric Trains / Locos on Up Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 52A&B shall be kept in Normal Position.	1)Open BM-205 at Simhachalam North/TSS. 2)Open BM-213 at Pendurti/SSP. 3)Open SM/185 at Loc. No. 867/39A at Simhachalam North. 4)Open SM/198 at Loc. No. 862/25A at Pendurti. 5)Close BM-205 at Simhachalam North/TSS. 6)Close BM-213 at Pendurti/SSP.	1)Close SM/185 at Loc. No. 867/39A at Simhachalam North. 2)Close SM/198 at Loc. No. 862/25A at Pendurti.
2	Up E/Section 20507 between SM/198 and PDT/SSP including Line Nos. 1&2 and APWC Siding at Pendurti Yard.	1)Esnsure no Electric Loco with its panto raised condition on Line Nos.1,2 and APWC siding. 2)Admission / Dispatch of Electric Trains / Locos is prohibited on Line Nos. 1&2 and APWC Siding. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 66A&B and 59A&B shall be kept in Normal Position.	1)Open BM-213 at Pendurti/SSP. 2)Open BM-205 at Simhachalam North TSS. 3)Open SM/198 at Loc. No. 862/25A at Pendurti. 4)Close BM-205 at Simhachalam North TSS.	1)Close BM-213 at Pendurti/SSP. 2)Close SM/198 at Loc. No. 862/25A at Pendurti.

1	2	3	4	5	6
3	Up E/Section 21501 between Pendurti SSP and SM/212 of Pendurti-Kottavalasa Section.	1)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on Up Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 51A&B shall be kept in Normal Position.	1)Ensure BM-69 in open position at Kottavalasa SP. 2)Open BM-215 at Pendurti/SSP. 3)Open BM-68 at Kottavalasa SP. 4)Open SM/212 at Loc. No. 853/35 at Kottavalasa. 5)Close BM-68 at Kottavalasa SP.	1)Close BM-215 at Pendurti/SSP. 2)Close SM/212 at Loc. No. 853/35 at Kottavalasa.
4	Middle Line E/Section 20303 between SM/184 and SM/195 on Pendurti-Simhachalam North Section.	1)Line clear shall not be granted / obtained to / from Simhachalam North for Electric Trains / Locos on Middle Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	Nil	1)Open BM-203 at Simhachalam North/TSS. 2)Open BM-211 at Pendurti/SSP. 3)Open SM/184 at Loc. No. 868/2A at Simhachalam North. 4)Open SM/195 at Loc. No. 863/6A at Pendurti. 5)Close BM-203 at Simhachalam North/TSS. 6)Close BM-211 at Pendurti/SSP	1)Close SM/184 at Loc. No.868/2A at Simhachalam North. 2)Close SM/195 at Loc. No. 863/6A at Pendurti.

1	2	3	4	5	6
5	Middle Line E/Section 20304 between SM/195 and SM/199 at Pendurti.	1)Line clear shall not be granted / obtained to / from Simhachalam North for Electric Trains / Locos on Middle Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 52A&B, 54A&B, 58A&B, 66A&B shall be kept in Normal Position.	1)Open BM-203 at Simhachalam North/TSS. 2)Open BM-211 at Pendurti/SSP. 3)Open SM/199 at Loc. No.862/14A at Pendurti. 4)Open SM/195 at Loc. No. 863/6A at Pendurti. 5)Close BM-203 at Simhachalam North/TSS. 6)Close BM-211 at Pendurti/SSP	1)Close SM/199 at Loc. No.862/14A at Pendurti. 2)Close SM/195 at Loc. No. 863/6A at Pendurti.
6	Middle Line E/Section 20305 between SM/199 to Pendurti SSP on Line Nos. 3&4 of Pendurti Yard.	1)Esnsure no Electric Loco with its panto raised condition on Line Nos.3&4. 2)Admission / Dispatch of Electric Trains / Locos is prohibited on Line Nos. 3&4. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 52A&B, 54A&B, 58A&B, 66A&B shall be kept in Normal Position.	1)Open BM-211 at Pendurti/SSP. 2)Open BM-203 at Simhachalam North TSS. 3)Open SM/199 at Loc. No.862/14A at Pendurti. 4)Close BM-203 at Simhachalam North TSS.	1)Close BM-211 at Pendurti/SSP. 2)Close SM/199 at Loc. No.862/14A at Pendurti.

1	2	3	4	5	6
7	Middle Line E/Section 21701 between Pendurti SSP to SM/202 of Pendurti - Kottavalasa Section.	1)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on Middle Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 59A&B, 57A&B, 53A&B, 51A&B shall be kept in Normal Position.	1)Ensure SM-218 at Loc. 846/28/1 on Kantakapalli-Kottavalasa Section is in open position. 2)Open BM-217 at Pendurti/SSP. 3)Open BM/68 & BM-72 at Kottavalasa SP. 4)Open SM/202 at Loc. No. 860/6A at Pendurti. 5)Close BM/68 & BM-72 at Kottavalasa SP.	1)Close BM-217 at Pendurti/SSP. 2)Close SM/202 at Loc. No. 860/6A at Pendurti.
8	Middle Line E/Section 21702 between SM/202 and SM/211 of Pendurti-Kottavalasa Section.	1)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on Middle Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	Nil	1)Ensure SM-218 at Loc. 846/28/1 on Kantakapalli-Kottavalasa Section is in open position. 2)Open BM-217 at Pendurti/SSP. 3)Open BM-68 & BM-72 at Kottavalasa/SP. 4)Open SM/202 at Loc. No. 860/6A at Pendurti. 5)Open SM/211 at Loc. No. 854/4A at Kottavalasa. 6)Close BM-68 & BM-72 at Kottavalasa/SP.	1)Close SM/211 at Loc. No. 854/4A at Kottavalasa. 2)Close SM/202 at Loc. No. 860/6A at Pendurti.

1	2	3	4	5	6
9	Down E/Section 20206 between SM/186 and SM196 on Pendurti-Simhachalam North Section.	1)Line clear shall not be granted / obtained to / from Simhachalam North for Electric Trains / Locos on Down Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	Nil	1)Open BM-202 at Simhachalam North/TSS. 2)Open BM-210 at Pendurti/SSP. 3)Open SM/186 at Loc. No. 868/4 at Simhachalam North. 4)Open SM/196 at Loc. No. 863/1 at Pendurti. 5)Close BM-202 at Simhachalam North/TSS. 6)Close BM-210 at Pendurti/SSP.	1)Close SM/186 at Loc. No. 868/4 at Simhachalam North. 2)Close SM/196 at Loc. No. 863/1 at Pendurti.
10	Down E/Section 20208 between SM/196 and Pendurti SSP on Line Nos. 5&6 of Pendurti.	1)Esnsure no Electric Loco with its panto raised condition on Line Nos.5&6. 2)Line clear shall not be granted / obtained to / from Simhachalam North for Electric Trains / Locos on Down Line. 3)Admission / Dispatch of Electric Trains / Locos is prohibited on Line Nos. 5&6. 4)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 56A&B, 54A&B, 58A&B, 60A&B and 65A&B shall be kept in Normal Position.	1)Open BM-210 at Pendurti/SSP. 2)Open BM-202 at Simhachalam North TSS. 3)Open SM/196 at Loc. No. 863/1 at Pendurti. 4)Close BM-202 at Simhachalam North TSS.	1)Close BM-210 at Pendurti/SSP. 2)Close SM/196 at Loc. No. 863/1 at Pendurti.

1	2	3	4	5	6
11	Down E/Section 22002 between Pendurti SSP to SM/201 at Pendurti.	1)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on Down Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 57A&B, 55A&B and 53A&B shall be kept in Normal Position.	1)Ensure BM-01 at Kottavalasa SP is in open position. 2)Ensure SS/103 at Loc. 0/16B at Kottavalasa is in open position. 3)Ensure SS/103A at Loc. 853/11A at Kottavalasa is in open position. 4)Open BM-220 at Pendurti/SSP. 5)Open BM-72 at Kottavalasa SP. 6)Open SM/201 at Loc. No. 860/9 at Pendurti. 7)Close BM-72 at Kottavalasa SP.	1)Close BM-220 at Pendurti/SSP. 2)Close SM/201 at Loc. No. 860/9 at Pendurti.

1	2	3	4	5	6
12	Down E/Section 22004 between SM/201 and SM/214 on Pendurti-Kottavalasa Section.	1)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on Down Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	Nil	1)Ensure SS/103A at Loc. No. 853/11 is in open position at Kottavalasa. 2)Ensure SS/103 at Loc. No. 0/16B is in open position at Kottavalasa. 3)Ensure BM-01 is in open position at Kottavalasa SP. 4)Open BM-220 at Pendurti/SSP. 5)Open BM-72 at Kottavalasa/SP. 6)Open SM/201 at Loc. No. 860/9 at Pendurti. 7)Open SM/214 at Loc. No. 853/4 at Kottavalasa. 8)Close BM-220 at Pendurti/SSP. 9)Close BM-72 at Kottavalasa/SP.	1)Close SM/201 at Loc. No. 860/9 at Pendurti. 2)Close SM/214 at Loc. No. 853/4 at Kottavalasa.

1	2	3	4	5	6
13	KK Line E/Section 20601 between Simhachalam North TSS and SM/197 of Pendurti-Simhachalam North Section.	1)Line clear shall not be granted / obtained to / from Simhachalam North for Electric Trains / Locos on KK Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 56A&B shall be kept in Normal Position.	1)Ensure SM/180 at Loc. No. 869/1011A is in open position at Simhachalam North. 2)Open BM-206 at Simhachalam North/TSS. 3)Open BM-209 at Pendurti SSP. 4)Open SM/197 at Loc. No. 862/19/2 at Pendurti. 5)Close BM-209 at Pendurti SSP.	1)Close BM-206 at Simhachalam North/TSS. 2)Close SM/197 at Loc. No. 862/19/2 at Pendurti.
14	KK Line E/Section 20602 between SM/197 and Pendurti SSP on Line Nos. 7&8 at Pendurti.	1)Ensure no Electric Loco with its panto raised condition on Line Nos. 7&8 at Pendurti. 2)Admission / Dispatch of Electric Trains / Locos is prohibited on Line Nos. 7&8 at Pendurti. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 60A&B and 65A&B shall be kept in Normal Position.	1)Ensure SM/200 at Loc. No. 861/2/1 is in open position at Pendurti. 2)Open BM-209 at Pendurti/SSP. 3)Open BM-206 at Simhachalam North TSS. 4)Open SM/197 at Loc. No. 862/19/2 at Pendurti. 5)Close BM-206 at Simhachalam North TSS.	1)Close BM-209 at Pendurti/SSP. 2)Close SM/197 at Loc. No. 862/19/2 at Pendurti.

1	2	3	4	5	6
15	KK Line E/Section 21801 between Pendurti SSP and SM/210 on Pendurti-Kottavalasa Section.	1)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on KK Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at Danger.	1)Point Nos. 55A&B shall be kept in Normal Position.	1)Ensure SM/200 at Loc. No. 861/2/1 is in open position at Pendurti. 2)Open BM-218 at Pendurti/SSP. 3)Open SM/210 at Loc. No.854/9/1 at Kottavalasa. 4)Close SS/103A at Loc. No. 853/A at Kottavalasa.	1)Close BM-218 at Pendurti/SSP. 2)Close SM/210 at Loc. No.854/9/1N at Kottavalasa. 3)Open SS/103A at Loc. No. 853/A at Kottavalasa.

16. The following rules should be read along with in place 5(ii) i.e. Operation of Switches of "Appendix-G".

Operation of Switches: "In case of emergency, Authorized and trained station staff may open isolator switches under specific instructions of the Traction Power Controller (SR.17.14.14-B).

This is to be read as

"In case of emergency, Authorized and trained staff may open Isolator Switches under specific instructions of Traction Power Controller (SR.17.14.14-B) with exchanging of Private Nos. to perform the operations of the following isolator switches as well as any other isolators within the station limits".

S.N.	Isolator No.	Location No.
1	SM/195	863/6A
2	SM/196	863/1
3	SM/197	862/19/1
4	SM/198	862/25A
5	SM/199	862/14A
6	SM/200 (N/O)	861/2/1
7	SM/201	860/9
8	SM/202	860/6A
9	SS/340	FGS/1

NOTE:

i) For any unusual movement of Electric Locomotives, the Station Master on duty must refer to the Working Rules, Diagrams of his station and ensure that there is no chance of energising the section where Power Block has been granted.
ii) Point leading to unwired tracks shall not be used for the movement of Electrical Locos with Panto graph raised.
iii) Refer SWR Drg. No. WAT/TRD/SWR/PDT/226/11.
iv) This Appendix-G superseeds earlier Appendix-G Drawing No. VSKP/TRD/SWR/58/03, Mod.(A) & Mod. (B).