EAST COAST RAILWAY

WALTAIR DIVISION

STATION WORKING RULES
OF

MALLIVIDU STATION

SI/WRD-23182

EAST COAST RAILYWAY

WALTAIR DIVISION

INDEX OF CORRECTION SLIPS

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

INDEX

S No	DESCRIPTION		PAGE No
1.	Station Working Rules	----------	1-29
2.	Appendix-A	----------	30-60
3.	Appendix-B	----------	61-86
4.	Appendix-C	----------	87
5.	Appendix-D	----------	88-90
6.	Appendix-E	----------	91
7.	Appendix-F	----------	92
8.	Appendix-G	----------	93

EAST COAST RAILWAY

WALTAIR DIVISION

STATION WORKING RULES OF MALLIVIDU [MVW] [BROAD GAUGE]

Date of Issue:
Date brought in force:

Ref: Lr No: 2000/Safety (A&R)/19/36 of Rly. Board dated 27.10.05.

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

1. STATION WORKING RULE DIAGRAM:

The Station Working Rule diagram no: SI/WRD/23200 ALT-A based on CSTE/E.Co.Rly Signal Interlocking Plan No.SI-23200 ALT-A shows the complete layout of the yard, normal position of points, the Signalling and Interlocking arrangements, Gradients within the station limits. This must be referred to for giving details of the points and Signals when reporting accidents.

2. DESCRIPTION OF STATION:

MALLIVIDU (code: MVW) is a standard-II (R) 'B' class station with MACLS on the Kottavalasa-Kirandul, B.G.section of E.Co.Rly on 'D' Special route. It is situated at km 8.930 from KTV and provided with centrally operated by VDU.

2.1. GENERAL LOCATION:

a)	Name of the station	MALLIVIDU
b)	Class of station	'B' class
c)	Section	Kottavalasa-Kirandul
d)	Double line/Single line	Double Line between KTV-MVW & MVW-LVK
e)	Electrified/Non Electrified	Electrified
f)	Gauge BG/MG/NG	BG
g)	Railway	East Coast Railway
h)	Route	'D' Special
i)	Situated at	Km 8.930
j)	Reckoned from	Kottavalasa
k)	Operation	Centrally operated with VDU.

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

S.No	Adjacent BlockStation	Distance	Direction
1.	KOTTAVALASA	8.930 km	KTV end
2.	LAKKAVARAPUKOTA	7.420 km	KRDL end
3.	Provision of IBS	Nil	
4.	Automatic signal	Nil	

(S NIRANJAN KUMAR)
DSTE/CON/VSKP

(K.SIVA HARSHA)
DOM/WAT

S.No	Adjacent BlockStation	Distance	Direction
5.	DK station/Outlaying sidings	Nil	
6.	Passenger halt	Nil	

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

Between Stations	The Point from which the Block section commences	The Point at which the 'Block Section' ends
MVW-KTV DN.	From DN advanced starter signal no. 26 of MVW.	BSLB of KTV.
KTV-MVW UP.	From UP advanced starter signal no. 50 of KTV.	BSLB of MVW.
MVW-LVK UP.	From UP Advanced starter signal no.25 of MVW.	Point No.37A of LVK
MVW-LVK DN.	From DN Advanced starter signal no.26 of LVK	Point No.30A of MVW

2.3.1. STATION SECTION:

DN LINE: From top most point 30 to DN Advanced Starter Signal No.26.

UP LINE: From the BSLB at KTV end to UP Advanced Starter Signal No. 25.

2.3.2. STATION LIMIT:

UP LINE: From UP Distant Signal to UP Advanced Starter Signal No.25.

DN LINE: From DN Distant Signal to DN Advanced Starter Signal No.26.

2.4. GRADIENTS:

a) From the Centre of the station building towards KTV (UP Line):

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
0.000 F/CSB	529.00M	529.00M	1 in 400 Raising
529.00M	802.00M	273.00M	1 in 100 Raising
802.00M	1222.00M	420.00M	1 in 105 Raising
1222.00M	2552.00M	1330.00M	1 in 100 Raising
2552.00M	2722.00M	170.00M	Level
2722.00M	In to section	--	1 in 115 Raising

b) From the Centre of the station building towards KTV (GSL Siding Line):

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
0.000 F/CSB	350.00M	350.00M	1 in 400 Raising 1 in 260 Falling (Over run line)
350.00M	520.00M	170.00M	1 in 400 Raising
520.00M	In to section	--	1 in 260 Raising

c) From the Centre of the station building towards KTV (DN Line):

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
0.000 F/CSB	546.00M	546.00M	1 in 400 Raising
546.00M	1180.00M	634.00M	1 in 104 Raising
1180.00M	2655.00M	1475.00M	1 in 100 Raising
2655.00M	In to section	--	1 in 100 Falling

d) From the Centre of the station building towards LVK (DN Line):

Chainage in Mtrs from		Stretch	Gradient
From	To		
0.000 F/CSB	1210.00M	1210.00M	1 in 400 Falling
1210.00M	1417.00M	207.00M	1 in 694 Falling
1417.00M	3055.00M	1638.00M	1 in 150 Falling
3055.00M	In to section	---	Level

e) From the Centre of the station building towards LVK (UP Line):

Chainage in Mtrs from		Stretch	Gradient
From	To		
0.000 F/CSB	1210.00M	1210.00M	1 in 400 Falling
1210.00M	1568.00M	358.00M	1 in 567 Falling
1568.00M	2898.00M	1330.00M	1 in 143 Falling
2898.00M	In to section	---	Level

2.5. A) <u>LAY OUT</u>:

Sl no	Running/Non Running line	Electrified/Non Electrified
1.	Line no-1 (DN Loop Line)	Electrified
2.	Line no-2 (DN Main Line)	Electrified
3.	Line no-3 (UP Main Line)	Electrified
4.	Line no-4 (Common Loop Line)	Electrified
5.	Line no-5 (Common Loop Line)	Electrified

B) <u>PLATFORMS:</u>

i) One Rail level passenger platform on Line No.1 is provided with measurement of 353.84M x 10.621M. and Extension of One High level Platform is provided with a measurement of 70M x 10.621M.

ii) One High Level Passenger Platform between Line No.4 and Line No.5 is provided with measurement of 400.00M x 10.00M.

2.5.1.<u>RUNNING LINES, DIRECTION OF MOVEMENT & HOLDING CAPACITY IN CSR:</u>

<u>Direction of traffic:</u>

The trains coming from LVK and are proceeding towards KTV are DN trains and the trains coming from KTV and proceeding towards LVK are UP trains.

Holding Capacities of lines in CSL:

S.No	Running lines	Name of the Line	Clear Standing Room	Whether Electrified/ Non Electrified
1.	Line No 1	DN Loop Line	730M (From STR to SS)	Electrified
2.	Line No 2	DN Main Line	773M (From STR to SS)	Electrified
3.	Line No 3	UP Main Line	1163M (From STR to SH)	Electrified
4.	Line No 4	Common Loop Line	922M (From STR to STR)	Electrified
5.	Line No 5	Common Loop Line	827M (From STR to STR)	Electrified

2.5.2.NON RUNNING LINES AND THEIR CAPACITY IN CSR:

a) Hot Axle siding:

One Hot Axle Siding takes off from Line No.1 at KTV end of the yard and terminates towards Station side. The siding is isolated by the derailing switch. The entrance point and corresponding derailing switches are operated by point machines. Point machines towards KTV end can be operated by releasing the key 'P' from EKT-1 provided in Siding Point 41A/B Location No.1 only when SM extends permission through control No.41 from VDU. Point machines towards Station end can be operated by releasing the Key 'Q' from EKT-1 provided in Siding Point 43A/B Location No.2 only when SM extends permission through Control No.43 from VDU. When control 41 or 43 is transmitted from VDU reception Signals S/C2, SH3, SH4 towards Line No.1 and dispatch signals S12 and SH17 from Line No.1 will be locked in their normal position.

The SM on duty shall follow the procedure laid down in Para No.4.8 of Appendix-B for operation of Siding points.

Holding Capacities of Siding in CSL/CAL:

S.No	Name of the Line	Clear Standing Room	Whether Electrified/ Non Electrified
1.	Hot Axle Siding	51 M (From GJ to GJ)	Electrified

b) GSLPlant Siding:

One GSL Plant siding takes off from Line No.4 towards KTV end of the yard and is operated with point machine No.37A/B. Shunt signal SH18B on Line No.4 is provided for shunting in to GSL Plant siding. Shunt Signal SH5 is provided near point No.37A for shunting on Line No.4.

Holding Capacities of Siding in CSL/CAL:

S.No	Name of the Line	Clear Standing Room	Whether Electrified/ Non Electrified
1.	GSL Plant Siding	720 M (From SH to Legend Board provided by GSL Plant)	Electrified

c) Shunting Neck:

One Shunting Neck takes off from Line No.4 at KTV end and is terminated into a dead end. Shunting Neck is isolated from Line No.4 with a motor operated derailing switch.

Holding Capacities in CSL:

S.No	Name of the Line	Clear Standing Room	Whether Electrified/ Non Electrified
1.	Shunting Neck	735 M (From SH to DE)	Electrified

2.5.3. ANY SPECIAL FEATURES IN THE LAYOUT:

NIL

2.6. LEVEL CROSSINGS:

S No	LC gate No. & KM	Class of Gate	Type of interlocking	Section
1.	KK-2, Km No: 6/11-12	'C' Class Engineering.	Non-Interlocked	MVW-KTV
2.	KK-3, Km No: 9/26-10/0	'B1' Class Traffic.	Interlocked	MVW-LVK

3. SYSTEM AND MEANS OF WORKING:-

DOUBLE LINE:

A) Trains are worked under "Absolute Block System" in accordance with provision of GR 7.01 (1) (a), 8.01 (1) (a) & (b) 8.01 (2) (b), 8.03 (1) (a) (b) (c) (ii), 14.01 to 14.07, 14.08 (a), 14.09 to 14.11, 14.13 and Block Working Manual Chapter-VI.

B) **BLOCK INSTRUMENT:**

a) S.G.E Type (Non Co-operative) double line lock and block instruments are provided for MVW-KTV and MVW-LVK Block sections in the Station Master's room vide BWM 6.01 (a) and GR 14.01 (a). The Lock and Block instruments are operated by Station Master on duty as per the provisions of GR Chapter-XIV of G & SR and Block Working Manual Chapter-VI.

b) Taking "OFF" of the Last Stop Signal is the authority for the loco pilot to take his train into the concerned block section vide GR 14.08(a).

c) The Block instruments are provided with double locking arrangement. One key of the block instruments must be in the personal custody of Station Master on duty and other key will be with S&T maintainer.

d) The double line Block instruments are equipped with attached telephone communication connected to adjacent block station of the section concerned

4. SYSTEM OF SIGNALLING AND INTERLOCKING:

4.1.

a) ***Standard of Interlocking:*** This Station is provided with Standard-II (R) with Electronic Interlocking.

b) ***Type of signals:*** Multiple Aspect Colour Light Signals. The aspects and indications of the MACLS is governed by GR.3.08 (4) (b) & 3.07 (4).

c) The Station is provided with centralized Electronic Interlocking (EI). All signals and points are electrically operated centrally from the VDU provided at SM's Office.

d) ***Method of operation:*** VDU is provided with a stand by VDU in the Station Master's office to centrally control all signals, points and crank handles etc. The SM's Key which is provided with SM's Key box shall always remain in the personal custody of the station master on duty in terms of GR 3.36 (3). The detail of operation from VDU is given under APPENDIX-'B'.

e) ***Provision of axle counter/Track circuits on running lines:*** Track circuits are provided in the yard as 1AT, 1T1, 1T2, 26AT, 26T, 31/33AT, 31BT, 33BT, 35AT, 35/37/39T, 31AT1, 37AT, 5AT, 45AT, 45BT, L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L3T1, L3T2, L3T3, L3T4, L4T1, L4T2, L4T3, L4T4, L5T1, L5T2, L5T3, 36T, 34AT, 34BT, 32AT, 32BT, 30AT, 30BT, 30BT1, 30BT2, 25AT, 25T, 2T1, 2T2, 2AT. Indications for the above track circuits/ Axle counters are available on VDU at SM's office. When a signal is cleared the route indication 'Yellow' strip appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

f) ***Calling on signals:*** Calling-on signals are provided below Home signals (i.e. in both UP & DN lines) as per GR.3.13 (1) (b), (2) (3) (4) & (6) (b).

g) IBS is not provided at this station.

h) ***Crank Handle:*** When any point fails to operate normally by the Route Setting operation through VDU, it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual chapter-2, para-2.18 & 2.19.

CRANK HANDLE		CONTROL POINTS
CH-1	- - - -	31A/B

CH-2	- - - -	33A/B
CH-3	- - - -	35A/B
CH-4	- - - -	32A/B
CH-5	- - - -	37A/B, 39
CH-6	- - - -	41A/B
CH-7	- - - -	43A/B
CH-8	- - - -	36A/B
CH-9	- - - -	34A/B, 45A/B
CH-10	- - - -	30A/B

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 concerned signals are not taken 'OFF' and the route is not locked for whatever reasons. To Transmit or Release control of the Crank Handle, click on the crank handle control button, a pop-up menu will appear. The appearing pop-up menu gives details of the possible commands on the Crank Handle, which are transmit control and Receive control. Crank Handle can be released by clicking the Transmit control. 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 end 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 for the same.

SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency Crank handle register shall be maintained by the SM on duty at the station as per Para 2.19(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 should be promptly reported to the concerned signal maintainer/signal SSE/JE for immediate rectification.

When Crank handle operation is resorted to, the concerned counter will be incremented. The same should be recorded in the register provided for with the reason by SM on duty.

i) <u>TAKING OFF CALLING-ON SIGNAL:</u>

Miniature colour 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. Before taking 'OFF' Calling on signal during failure of track circuit, the track over which the train is going to be admitted must be checked physically by SS/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 (1AT, 2AT as the case may be) in rear of the signal. (The detailed procedure is given in Appendix-B)

Note: SM on duty should ensure that no through train signals are given while receiving a train on Calling-on Signal.

j) SHUNT SIGNALS:

Shunt back signal SH-3(A-E) is provided towards KTV end of the yard. Shunt signal SH5 to receive trains from GSL Plant. Shunt Signal SH7A/B is provided on Shunting neck to receive the trains from the Shunting Neck. Shunt signal SH16 and Dependent Shunt signal SH18A/B & SH20 are provided towards KTV end for Line No.3, 4 & 5 respectively. Shunt back Signal SH-4(A-C) is provided towards LVK end of the yard.

k) EMERGENCY CROSS OVER:

NIL

l) MOTOR OPERATED POINS:

All the running line points including siding points in the yard are operated with Electrical point machines.

m) EMERGENCY/CRANK HANDLE KEYS AND THEIR CUSTODY:

The Crank Handle location boxes are painted with yellow and black diagonal strips and pad locked. The key of Crank handle location is kept in the custody of the SM on duty. One Crank Handle is kept in the custody of SM on duty for operation of points in case of emergency. Telephone communication is provided in the crank handle location box.

n) INDICATIONS OF POINTS/SIGNALS/TRACL CIRCUITS/AXLE COUNTERS:

All points and signal indications in the yard will be displayed in the mimic diagram of the VDU as per the site condition. Normally no indications are displayed in the mimic diagram when track circuits are cleared; red indication is displayed when the same are occupied. Axle counter clear or occupied indications are displayed in the mimic diagram.

o) DISCRIPTION OF VISUAL DISPLAY UNIT(VDU):

Details described in Appendix-'B'.

p) L.C GATE OPERATION:

Details described in Appendix-'A'.

q) EMERGENCY POINT OPERATION:

Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit.

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 is ECOR and the password of this station is

MVW. On clicking the concerned point icon, a pop-up menu is displayed carrying four options: 1) Normal 2) Reverse 3) Emergency Normal 4) Emergency Reverse. For emergency operation of concerned point, drag the pointer to either emergency normal or emergency reverse whichever is desired. A normal or reverse flashing indication will appear and the indication will become steady after the point is set to normal or reverse, whichever is desired. After the completion of Emergency point operation, the key is to be KEY OUT by clicking KEY OUT menu. The user name and password is to be given for KEY OUT also. This action will be recorded in a counter. All such operations will be registered in the emergency point operation counter Register.

After the Emergency point operation a specific counter will change to its next higher digit and this number should be recorded in the register provided for this purpose by the SM/ASM.

r) EMERGENCY ROUTE RELEASE COUNTER:

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

s) EMERGENCY ROUTE RELEASE INDICATION:

All the signals in MVW station are provided with 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route.

When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), the concerned signal must be put back to Danger by clicking the concerned signal cancellation menu on the VDU (The procedure in detail is given in Appendix-'B'). After doing so click on the route release menu, the route locked indication will start flashing for 120 seconds. After completion of 120 seconds, the yellow light along with the White/yellow strip of light will disappear conveying the route has been released (the lock indication of points, crank handles & L.C. Gate if any vanishes). In case the route illumination (White strip lights) does not disappear, it suggests that the route is not released/canceled. In such case the concerned S&T staff should be advised immediately to release the route. Each operation of emergency cancellation of route will 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.

t) AXLE COUNTER:

High Available Digital Axle counters with dual detectors are provided for section KTV-MVW and MVW-LVK on both UP & DN lines for last vehicle verification.

The position of the Block section whether cleared or occupied are reflected in the VDU provided in the Station Master's office which shows 'GREEN' when the Block Section is clear and 'RED' when occupied. Whenever a train enters 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 both the axle counters has been provided in the SM office. After being assured by both the SM of block section that the last vehicle has arrived complete at the receiving station by exchanging Private Number, the resetting to be complied with. (Details of resetting procedure are given in APPENDIX-'B' of this SWR).

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

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

4.3. POWER SUPPLY:

i) The station works on 230V single phase power supply. The normal power supply is from the auxiliary transformer UP AT/DN AT (25KVA Rating) connected to OHE traction distribution system.

ii) Standby power supply: (a) 1st standby power supply: Andhra Pradesh State Electricity Board Supply.

iii) An Auto changeover switch is provided in the Station Master's Office with the three power supplies viz., UP AT, DN AT and Local supply for automatic selection from available source or changing the switch position to the required supply manually. A luminous indicator provided above the circuit breaker for each supply indicates the availability of the supply.

iv) Normally the switch is kept in auto mode. Whenever power block is to be given, the on duty SM must ascertain that power is available on the other AT. Eg: if power block is given to the up line, DN AT must be available and vice-versa.

v) 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 Up and when tripped it goes down). 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 means and a message shall be given to concerned SSE [Elect.] and SSE/PSI [OHE] for prompt rectification.

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

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

viii) 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 AT or Local 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 AT and Local and make an entry in the Station Diary duly initiating action for rectification of failure, if any.

5. TELECOMMUNICATIONS:

i). The station is connected to KTV-KRPU control Circuit.

ii). The station is connected to KTV-KRPU traction power control circuit.

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

iv). Telephones attached to single line Token less Block Instruments and double line block instruments are connected to adjacent stations on either side.

v). Magneto Telephone communication is provided between MVW-LVK and KTV-MVW stations.

vi). Telephone communication is provided between Station Master on duty to UP CH locations and to DN CH Locations.

vii). Telephone communication is provided in between Station Master on duty and Hot Axle Siding Location No.1,1A and 2,2A.

viii). Telephone communication is provided between Station Master on duty and C-Class LC Gate No.KK-2 at Km No.6/11-12.

ix). Telephone communication is provided between Station Master on duty and B1-Class LC Gate No.KK-3 at Km No.9/26-10/0.

x). Telephone communication is provided between Station Master on duty and GSAL Plant.

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

xii). BSNL telephone is provided at this station.

xiii). CUG phone is provided at this station with SM on duty.

5.1. FAILURE OF COMMUNICATION: -

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

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

6. SYSTEM OF TRAIN WORKING:

6.1. DUTIES OF TRAIN WORKING STAFF:

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.

6.1.1. TRAIN WORKING STAFF IN EACH SHIFT:

STAFF IN EACH SHIFT:

Station Master	1

TPM/TP	1
Traffic Gateman	1

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

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

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

6.1.3. ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:

All staff before taking up independent charge of their duties at this station shall make a written declaration in the Assurance Register that they have read the SWR thoroughly and understood the system of working in force at the station and must sign such declaration.

No Railway servant shall be entrusted with any duty involving the safety of the public unless the SS (Supervisor) is satisfied that the concerned staff is competent for the post. No Railway servant unless duly examined and certified shall be allowed to work the points and signals. The SS (Supervisor) is responsible to see that all the staff are well conversant with the Station Working Rules of the Station and their signature obtained in the Assurance Register after he is satisfied that they have thoroughly understood the working Rules of the Station. In case of Class-IV staff, their signature/thumb impression must be obtained after explaining full about their duties and responsibility.

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

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

6.2. CONDITIONS FOR GRANTING LINE CLEAR:

A) For section MVW-LVK:

i). The conditions laid down in GR 8.03 (1) (a) (b) (c) (ii) shall be complied with SM on duty before line is considered clear and line clear is granted for double line section KTV-MVW.

ii). Line shall not be considered clear and line clear shall not be granted to a DN train unless:

a) SM ensures the reception signals pertaining to a train are in 'ON' position and glowing properly vide GR 3.49 (4).

b) Whole of the last preceding train has arrived completely.

c) DN Home signal /calling-on signal No. 2(A-D) and/or C-2(A-D) is put back to 'ON' position.

d) Line is clear up to Top most Point 30A of MVW.

B) <u>For section KTV-MVW</u>:

iii). The conditions laid down in GR 8.03 (1) (a) (b) (c) (ii) shall be complied with SM on duty before line is considered clear and line clear is granted for double line section KTV-MVW.

iv). Line shall not be considered clear and line clear shall not be granted to an UP train unless:

a) SM ensures the reception signals are in 'ON' position and glowing properly vide GR 3.49 (4).

b) Whole of the last preceding train has arrived completely.

c) UP Home signal /calling-on signal No. 1(A/B/C) and/or C-1(A/B/C) is put back to 'ON' position.

d) Line is clear up to BSLB of MVW.

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

NIL

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

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

<u>Safety Point Alarm:</u>

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

1. On complete arrival of a train at the station, the SM has to set the Points immediately against the occupied line.

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

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

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

6.2.1.2. RECEPTION OF A TRAIN ON BLOCKED LINE:

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

6.2.1.3. RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

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 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].

6.2.1.4. DESPATCH OF TRAIN FROM NON-SIGNALLED LINE:

Whenever a train is to be dispatched from a Non-Signalled line a starting order on form T-511 shall be given to the driver to start from the Non-Signalled 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. ANY SPECIAL CONDITIONS:

a) SPECIAL RESTRICTIONS:

1. Shunting in face of approaching train is prohibited towards KTV end due to falling gradient 1 in 100 from block section to station section.

2. Engine to be attached towards falling gradient while shunting towards LVK end.

b) <u>SPECIAL INSTRUCTIONS:</u>

NIL

6.3. <u>CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS:-</u>

i). Conditions for taking off approach signals are governed by GR 3.40(1) (a), 3.40(2) (a), 3.40(3) (b) for double line section KTV-MVW and MVW-LVK.

ii). Calling-on signal may be taken off for the admission of train in the event of failure of Home signal in terms of SR 3.69.02(a) or for the admission of a train on obstructed line in terms of GR 5.09 and SRs thereto.

6.3.1. <u>RESPONSIBILITY OF STATION MASTER FOR RESTORATION OF SIGNALS TO "ON":</u>

Station master should ensure that signal is put back to 'ON' after passage of the train as per GR 3.36 (2) (B), 14.01 and SR 4.17.01.

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

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

1.	Reception of an UP train on Line No.5 setting overlaps to Overrun line (Common Loop).	AND	Dispatch of another UP train from Line No.3 or 4.
2.	Reception of an UP train on Line No.4 setting overlaps to Overrun line (Common Loop).	AND	Dispatch of another UP train from Line No.3.
3.	Reception of a DN train on Line No.1 setting overlap to overrun line (DN Loop Line).	AND	Dispatch of another DN train from line No.2 or 4 or 5.
4.	Reception of a DN train on Line No.4 setting overlap to DS Point (Common Loop).	AND	Dispatch of another DN train from line No.1 or 2.
5.	Reception of a DN train on Line No.5 setting overlap to overrun line (Common Loop).	AND	Dispatch of another DN train from line No.1 or 2 or 4.

<u>ADEQUATE DISTANCE</u>: (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 (3) (b) and SR thereto]

CLEARANCE OF ADEQUATE DISTANCE (SIGNAL OVERLAP)

FOR UP TRAINS		
Line No.	**From**	**To**
5	UP starter Signal No.9	The end of Overrun line or UP Advanced starter signal No.25.
4	UP starter Signal No.11	The end of Overrun line or UP Advanced starter signal No.25.
3	UP starter Signal No.13	UP Advanced starter signal No.25.

FOR DOWN TRAINS		
Line No.	**From**	**To**
1	DN starter Signal No.12	The end of Overrun line or DN advanced starter signal No.26.
2	DN starter Signal No.14	DN advanced starter signal No.26.
4	DN starter Signal No.18	DS Point No.39 or DN advanced starter signal No.26.
5	DN starter Signal No.20	The end of Overrun line or DN advanced starter signal No.26.

6.5. COMPLETE ARRIVAL OF TRAINS:

The entire block section between MVW-LVK and KTV-MVW double line section on both UP and DN Lines are monitored by axle counter system and the position of the block section whether 'Occupied' or 'Clear' is indicated on VDU at SM's office. As soon as train enters in to that block section the RED indication appears on VDU. After whole train clears the block section GREEN indication appears on the VDU. This confirms the complete arrival of train and the SM on duty shall give 'Train out of Block Section' report to the sending end station on seeing the section clear indication GREEN on the VDU.

If a train passes through the station without confirming 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 both the Axle counters 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 GR 4.17 (1) that the train had arrived completely. In case a train passes incomplete, action shall be taken as per SR.4.17.02, the "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 & Loco pilot shall be issued with caution order to proceed cautiously and stop sort 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 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 shall obtain line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the VDU. He shall suspend all non-isolated shunting and then shall take "OFF" the concerned route starter and advanced starter signal. The 'OFF' aspect of the advanced starter is the authority to proceed into the block section. As soon as the train passes the advanced starter signal, Train entering section indication will appear on the VDU. The SM will then send the train entering given section signal to the station in advance.
[Refer GR 3.38, 3.42, SR 3.36.04(b), 3.42.04 and BWM 2.07.5(a)]

The Station Master on duty shall watch the safe passage of the train with its last vehicle indicator. After the train passes the advanced starter complete he shall send the train entering block section signal to the station in advance. If a train worked without guard or break van the instruction laid down in Subsidiary

ISSUE OF CAUTION ORDERS:

Whenever in consequent of the line being under repairs or for any other reasons special precautions are necessary, a caution order detailing the kilometer and speed at which train should run with reasons for taking such precautions shall be handed over to the Guard and Loco pilot in terms of GR 4.09 and SRs thereto.

6.7. TRAINS RUNNING THROUGH:

The procedure detailed in Para 6.4, 6.5 shall be observed. The Station Master is responsible to observe/watch the condition of the vehicles on a passing train and shall wave green hand signal horizontally until anything wrong is noticed on train. For this purpose the Station Master on duty shall stand in such a position that he sees a clear view of the passing train and that his hand signals can clearly be seen by the Loco Pilot and Guard of the train. He shall also depute the TPM on duty to the other side, for passing the train. The TPM on duty shall wave Green hand signal horizontally. He shall show danger hand signal if he notices anything is wrong and reports the same to the SM on duty.

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 3.40,3.42, 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:

i). TRACK CIRCUITS:

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

ii). AXLE COUNTER:

If the axle counter fails between the block sections, resetting procedure will be adopted as per Para 6.1 of SWR (APP-B). If the axle counter indication does not appear 'GREEN & continues to show 'RED' condition after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SE (signal) for their rectification.

iii). BLOCK INSTRUMENTS:

In the event of failure of block instrument, the concerned block instrument shall be suspended till its rectification and trains shall work as per GR (Refer SR 6.02.03, 6.02.04 & 6.02.06)

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.

iv). RECEPTION OF A TRAIN ON OBSTRUCTED LINE:

Trains are to be admitted on a blocked line, by taking off calling-on signal as per GR 5.09(2)(a) or if calling signal cannot be taken off, trains are to be piloted as per GR 5.09(2)(C)(3)(4) (5) and SR 5.09.01.

v). RECEPTION OF A TRAIN ON NON-SIGNALLED LINE:

Before receiving a train on Non-Signaled line, the SM shall ensure that-

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

vi). DEFECTIVE SIGNALS:

Whenever 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 laid down in GR 3.74.

vii). <u>DEFECTIVE INTERLOCKING</u>:

When interlocking becomes defective the SS/SM on duty shall be responsible for correct setting, clamping, padlocking of points for admission of train. [Refer SR 3.69.03 (c) & 3.69.01].

viii). <u>DEFECTIVE/DAMAGED POINTS</u>:

When any point fails to operate normally by route setting operation through VDU, it is inevitable to operate the points with crank handle. The SS/SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals 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 shall be followed as per operating manual para 20.06. Station master on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency crank handle register shall be maintained by SM at the station as per para 20.06(d) of the Operating manual. Correct setting, clamping and padlocking of the points devolve on SM on duty. (Details of use of crank handle as per Appendix-'B'). The cases of the failures of the point should be promptly reported to the concerned signal maintainer/JE/SE (signal) for their immediate rectification.

6.9. <u>PROVISIONS FOR WORKING OF TROLLIES/ MOTOR TROLLIES/ MATERIAL LORRIES ETC"</u>:

a) Motor trolleys shall be worked as per GR 15.25 and SRs there to, BWM 5.11(1) (2), 5.12, 5.13, 5.14(2) (a) and circulars and orders issued from time to time. Material trolleys shall be worked as per GR 15.27 and SRs there to and in accordance with the provisions of Block Working Manual.

b) Tower wagons shall be worked as per GR 17.08 and SRs there to and BWM 4.39 and other circulars and orders issued from time to time.

c) Push trolley shall run under block protection only vide SR 15.25.09(e).

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

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

f) In all other respects the working of a light motor trolley shall conform 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.

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

7. BLOCKING OF THE LINES:

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. 'Line Block' is to be activated on VDU by SM on duty following procedure laid in para No.5.4.1 & 5.4.2 of Appendix-B. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23 and SR 5.23.01]

A) SECURING OF VEHICLES: -

As far as practicable, 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 SS 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]

B) REMINDER FOR BLOCKING LINES:

Whenever any running line is blocked or when a train is stopped to cross another train or detained for any other reason, even for a short while or during shunting operations, 'Line Block' is to be activated on VDU by SM on duty following procedure laid down in para No. 5.4.1 & 5.4.2 of Appendix-B. [Refer SR 3.36.03 (b)].

C) ALTERATION OF POINTS TO A CLEAR LINE WHENEVER A RUNNING LINE IS BLOCKED:

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

If all the lines at a station happen to be blocked when "Line Clear" has been granted to a train, the points should be set for the line occupied by a stable load or a goods train in that order, so that in case of any mishap the chances of causalities are minimized. In case all the lines are occupied by passenger carrying trains, points should be set for a loop line to negotiate of which the speed of the incoming train would be reduced, which in turn would minimize the consequences/causalities. While doing so points may be set for a loop occupied by a train, if any, whose engine is facing the direction of approach of the

incoming train rather than for a loop occupied by a train whose passenger coach will in case of collision receive the impact.

D) LOADING AND UNLOADING OF VEHICLES ON RUNNING LINES:

Except small loading and unloading of vehicles on running line is prohibited unless permitted by DOM vide SR 5.19.01.

8. 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, 5.14, 5.16 to 5.23, 8.05, 8.06, 8.14 and 8.15]. The SS/SM on duty is authorized to supervise shunting operation. Normally back shunt, shunt below starters and 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 SS/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 overrun 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.

a) CUSTODY OF KEYS AND PAD LOCKS DURING SUCH MOVEMENT:

The key of the pad locks of such points shall be in the personal custody of the operating official vested with this responsibility till such time movements are completed. The operating official vested with the responsibility of supervising the Non-Signaled movement of the engine/train/vehicle must return the key along with pad locks to the SM on duty after completion of the said movement or alternatively when such a move is cancelled.

b) AUTHORITY FOR SHUNTING OPERATIONS:

The SM on duty shall issue written shunting authority on form T/806 to the Driver through guard of the train when the non-signaled shunting is resorted to. This memo shall be withdrawn whenever shunting is to be suspended for reception and dispatch of train if the line on which shunting is performed is not isolated. After shunting is completed the order shall be collected from the driver cancelled and pasted with the record foil as per SR 5.13.02.

Note: Points both facing and trailing are to be clamped and padlocked for all non-signaled movements. Further it must be ensured that the entrance and exit track circuit are clear as also the intervening track of the cross over is clear of

any obstruction and certified so by the operating official (who is responsible for shunting supervision) before the SM on duty resumes normal working either for reception or dispatch of trains in the station yard or through the station yard.

c) NON-SIGNALLED MOVEMENTS:

All signaled movements in the yard either of train or of an engine with or without vehicles shall be from one stop signal to next stop signal or stop board and no half way movements are permitted and if such movements are permitted in unavoidable situations it should be considered as non-signalled movement and precautionary measures should be taken such as clamping and pad locking of points enroute both interlocked and non-interlocked points including derailing switches according to SR 5.3.05 and 5.14.03.

8.2. SHUNTING IN FACE OF AN APPROACHING TRAIN:

Shunting is face of an approaching train is prohibited towards KTV end.

8.3. PROHIBITION OF SHUNTING, SPECIAL FEATURES IF ANY:

i) Hand shunting is prohibited at both ends of the yard vide GR 5.20.
ii) Fly shunting is prohibited at both ends of the yard vide SR 5.21.01 (c).
iii) Engine to be attached towards falling gradient while shunting towards LVK end.

8.4. SHUNTING ON DOUBLE LINE:

i) ***Within station section*:** Shunting within station shall be permitted provided the necessary Reception Signals are kept at ON vide GR 8.05 (2). But this shall be done only when there is no approaching train since shunting in the face of an approaching train is prohibited at this station

ii) ***Outside the station section*:**

a) Shunting shall not be permitted in block section in rear unless it is clear and is blocked back. [Vide GR 8.06. (2)]
b) Shunting shall not be permitted in block section in advance unless it is clear and is block forward.
c) Shunting may permitted behind the train provided that when the block section in advance is occupied by a train travelling away from the station and under special instructions taking into consideration the speed, weight and brake power of trains and the gradients on the section and as soon as intimation has received that the train has arrived at the block station in advance, the line shall be blocked forward if it is still obstructed. [Vide GR 8.06. (3)]

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

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

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

9. <u>ABNORMAL CONDITION</u>:-

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

i). ***<u>Partial interruption/Failure:</u>***

In the event of suspension of Block instrument and during partial failure of other available means of communication, the procedures detailed below shall be followed for working of trains in different situations.

1) Failure/Suspension of Block Instrument or track circuit or Axle Counters-
Line clear shall be obtained on the Telephone attached to the block instrument or station telephone exchanged ID number and supported by Private Number.
2) Failure/Suspension of Block Instrument or Track Circuit or Axle Counters or Telephone attached to the Block instruments or station fixed telephones-
Line clear shall be obtained on Railway auto Phone or BSNL phone by exchanging identification number supported by a private number.
3) Failure/Suspension of Block Instrument or Track Circuit or Axle Counters or Telephone attached to the Block instruments or station fixed telephones or Railway auto Phone or BSNL phone –
Line clear shall be obtained on control phone by exchanging identification number supported by a private number.
4) Failure/Suspension of Block Instrument or Track Circuit or Axle Counters or Telephone attached to the Block instruments or station fixed telephones or Railway auto Phone or BSNL phone or control phone –
Line clear shall be obtained on the VHF set by exchanging identification number supported by a private number.

The authority to proceed for the Loco pilot is T/369(3b) bearing identification number and private number received from the station in advance written both in figure and words. [Refer SR 6.02.06 & Chapter-V of BWM].

ii). ***<u>The authority to proceed in occupied block section in case of obstruction of line or accident:</u>***

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). In the event of trains delayed in the block section, GR 6.04 and relevant SRs shall be followed.

iv). Failure/passing of Intermediate Block stop signal at 'ON' position: Not applicable.

v). Failure of Axle counter Block/BPAC: Procedure to be followed vide GR 14.13.

vi). Failure of MTRC: Not applicable.

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

The detailed Procedure for emergency operation of points by Crank Handle of motor operated points shall be followed.

Crank handle operation is interlocked with the signaling and interlocking system at this station. Key of crank handles normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals leading over the points are in the Normal position and the route is not locked for whatever reasons. To Transmit or Release control of the Crank Handle, click on the crank handle control button, a pop-up menu will appear. The appearing pop-up menu gives details of the possible commands on the Crank Handle, which are transmit control and Receive control. Crank Handle can be released by clicking the Transmit control the key can be extracted from the concerned RKT. 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.

<u>PROCEDURE FOR EMERGENCY OPERATION OF POINTS WITH POINT ZONE TRACK CIRCUIT/AXLE COUNTER FAILURE AND EMERGENCY ROUTE RELEASE:</u>

Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit.

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 is ECOR and the password of this station is MVW. On clicking the concerned point icon, a pop-up menu is displayed carrying four options: 1) Normal 2) Reverse 3) Emergency Normal 4) Emergency Reverse. For emergency operation of concerned point, drag the pointer to either emergency normal or emergency reverse whichever is desired. A normal or reverse flashing indication will appear and the indication will become steady after the point is set to normal or reverse, whichever is desired. After the completion of Emergency point operation, the key is to be KEY OUT by clicking KEY OUT menu. The user name and password is to be given for KEY OUT also. This action will be recorded in a counter. All such operations will be registered in the emergency point operation counter Register.

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

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

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

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

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

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

9.1. TOTAL FAILURE OF COMMUNICATION:

In the event of total failure of communication on double line, trains shall run on the authority to proceed without line clear in terms of SR 6.02.03 & on single line, as per SR 6.02.04.

9.2. TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

GR 6.01 and SR 6.02.01 shall be followed.

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

i). In the event of total failure of communication, trains shall run on the authority to proceed without line clear in terms of SR 6.02.03.

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

10. VISIBILITY TEST OBJECT:

The signals lights of DN Starter Signal No.12 of Line No.1 and UP Stop Signal No.17 of Line No.1 are earmarked to serve as visibility test object during day and night vide GR 3.61.02 (b) (iii) & SR's thereto.

11. ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-'E')

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

In case of thick, foggy or tempestuous weather impairing visibility, whenever it is necessary to indicate to the Loco Pilot 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 labour 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:

a) 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.

13. APPENDICES:

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

AND OUTLYING SIDINGS.

APPENDIX-G : RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS.

CERTIFICATE

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

(S NIRANJAN KUMAR)
DSTE/CON/VSKP

(K.SIVA HARSHA)
DOM/WAT

APPENDIX 'A'

WORKING OF LEVEL CROSSING GATES AT MALLIVIDU STATION

1. GENERAL:

1.1. DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of Level Crossing Gate :	KK-2
2.	Engineering or Traffic Gate :	Engineering gate ('C' class)
3.	Under control of Station Master / Permanent Way Inspector:	SSE [P.Way]/SUP
4.	Location at KM:	6/11-12
5.	At Station:	Mid-Section
6.	In between stations:	MVW-KTV
7.	BG / MG / NG :	BG
8.	Single line / Double line / Multiple line:	Double Line
9.	Normal Position:	Close to Road Traffic.
10.	Interlocked / Non-Interlocked:	Non-Inter locked.
11.	Means of Interlocking	Not Applicable.
12.	Provision of Gate signal at Kms.	Not Applicable.
13.	Signaling arrangements:	NIL
14.	Means of Communication – Telephone / Bell etc	Telephone connection with SM/MVW.
15.	Width of level crossing gate:	7.5 M.
16.	Type of road (NH / SH / Others) :	Others.
17.	Name of Road :	Rayapu Raju Peta Road
18.	Metalled / non-metalled :	Metalled.
19.	Approach road :	WBC.
20.	Width of the road :	5.50 M
21.	Angle of road crossing (in case of the skew gates):	90 Degree.
22.	Road gradient (if any)	(i) North / East side: 1 in 30. (ii) South / West side:1 in 30.
23.	Road alignment (straight/curve)	i) North /East side: Straight. ii) South /West side: Straight.
24.	Provision of height gauges:	Provided
25.	Type of Barriers:	Lifting Barrier.
26.	Length of Check rails :	7.5 M
27.	Road surface in between L-Xing gates:	Level CC Blocks.
28.	Length of Rumble strip / speed breakers:	5.0 M
29.	Road signs:	Provided
30.	Speed breaker indication board:	Provided
31.	TVU:	2470 of 11/2018.
32.	Census next due on :	11/2021.
33.	Demarcation for placement of Detonators:	Provided
34.	No. of Gatemen working:	2 (Two)

APPENDIX-'A'

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

1.2. EQUIPMENTS:

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

1.3. RECORDS TO BE KEPT AT GATE LODGE:

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

1. Gate Working Instructions in Hindi/English.
2. Gate Working Instructions in Local vernacular language
3. Gateman Rule Book in Local vernacular language.
4. List for tools and books.
5. Duty registers.

6. Certificate of Competency for working as gateman.
7. Bio-data particulars of Gateman, including date of passing vision test, Initial/refresher course, safety camp etc.
8. Accident Register.
9. Records of last census of road traffic at level crossing gate.
10. Public Complaint Book.
11. Inspection Book.

1.4. COMPETNCY : Gateman working at this gate should have competency certificate applicable to perform duty at this gate issued by the sectional JE/SE (P.WAY)

1.5. DUTIES OF GATEMEN:

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

2. POSITION DURING PASSAGE OF TRAINS:

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

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

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

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

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

3. ROUTINE DUTIES OF GATEMAN:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

xvii. Locking arrangement of gate should be checked daily.

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

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

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

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

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

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

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

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

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) On Double line section:

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

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

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

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

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

vi) Having returned to the gate, he must then take steps to remove the obstruction mobilizing any assistance locally available and warn the Loco pilot of the approaching train.

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

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

v). Thereafter, he shall proceed 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 mobilising any assistance locally available and warn the Loco pilot of the approaching train.

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) <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 Driver, owner and relay these details to the nearest Station Master or Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or through means available.

6. ENGINEERING ITEMS:

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

APPENDIX-'A'

ANNEXURE

WORKING INSTRUCTIONS FOR "C" CLASS NON-INTERLOCKED LEVEL CROSSING GATE SITUATED AT KM 6/10-12 (KK-2) BETWEEN MVW-KTV WITH NORMAL POSITION CLOSED TO ROAD TRAFFIC.

(General Instructions are common for all types of Manned Level Crossing Gates)

1. **Exchange of Private Number:**

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

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

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

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

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

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

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

vi). In the event of failure, if the gate is required to be opened for the passage of road traffic approaching from either end. He shall then plant a banner flag during day and hand signal lamp with red light during night, 5meters away from the gate on the track on either side. He will thereafter, open the gate for passing the road traffic keeping a red flag/red hand signal lamp ready in his hand, stopping approaching train, if any.

2. <u>Failure of Telephonic Communication:</u>

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

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

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

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 gang man / 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 defective Telephone at the earliest.

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

3. <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 man on duty, under exchange of private number, and ensure that lifting barriers 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 Loco Pilot 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 Loco pilot before dispatching a train in to the block section from his end.

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

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

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

i). If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the 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 on duty, regarding the defect / 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 three attempts, he shall first protect the gate and then inform on phone.

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

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

vii). He shall note down the particulars of the road vehicle, name of the Driver, owner and 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 to 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 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 chains and padlocks and there after exhibit green hand signal if 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 rectifies the defective lifting barriers and issue fit memo for the same.

5. <u>Obstruction on the Track near Level Crossing:</u>

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

APPENDIX-'A'

WORKING OF LEVEL CROSSING GATES AT MALLIVIDU STATION

1. GENERAL:

1.1. DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1.	Number of Level Crossing Gate :	KK-3
2.	Engineering or Traffic Gate :	Traffic gate ('B1' class)
3.	Under control of Station Master / Permanent Way Inspector:	SM/MVW
4.	Location at KM:	9/26-10/0
5.	At Station:	Station-Section.
6.	In between stations:	MVW-LVK
7.	BG / MG / NG :	BG
8.	Single line / Double line / Multiple line:	Double Line
9.	Normal Position:	Open to Road Traffic.
10.	Interlocked / Non-Interlocked:	Inter locked.
11.	Means of Interlocking	Inter locked with station signals
12.	Provision of Gate signal at Kms.	i) Up Line: Starter Signal. ii) DN Line: Home Signal No.2.
13.	Signaling arrangements:	MACLS
14.	Means of Communication – Telephone / Bell etc	Telephone connection with SM/MVW.
15.	Width of level crossing gate:	7.5 M.
16.	Type of road (NH / SH / Others) :	Others.
17.	Name of Road :	GSL Plant Road
18.	Metalled / non-metalled :	Metalled.
19.	Approach road :	Metalled.
20.	Width of the road :	4.3 M
21.	Angle of road crossing (in case of the skew gates):	-
22.	Road gradient (if any)	(i) North/East side: 1 in 30. (ii) South/West side: 1 in 30.
23.	Road alignment (straight/curve)	i) North/East side: Straight. ii) South/West side: Straight.
24.	Provision of height gauges:	Provided
25.	Type of Barriers:	Electrical Lifting Barrier
26.	Length of Check rails :	7.5 M
27.	Road surface in between L-Xing gates:	-
28.	Length of Rumble strip / speed breakers:	5.0 M
29.	Road signs:	Provided
30.	Speed breaker indication board:	Provided
31.	TVU:	30966 of 11/2018.
32.	Census next due on :	11/2021.
33.	Demarcation for placement of Detonators:	Provided

APPENDIX-'A'

34.	No. of Gatemen working:	2 (Two)
35.	Nearest Railway Medical Assistance	VSKP.
36.	Nearest Private Medical Assistance available (if any):	KTV.
37.	List of equipment available Yes / No:	Yes

1.2. EQUIPMENTS:

i. One red and one green hand signal flag.
ii. 2 hand signal lamps
iii. 2 red banner flags with side props.
iv. 10 detonators in a case.
v. 2 gate lamps (not applicable to this gate).
vi. 2 chains with pad locks for locking the gates.
vii. 2 pad locks for the gate lamps (not applicable this gate).
viii. A small size chain for use in case of failure of gate boom lock.
ix. 2 staves for fixing hand signal lamps (not applicable to this gate).
x. Gate working rules.
xi. Level crossing inspection book.
xii. Compliant book.

1.3. RECORDS TO BE KEPT AT GATE LODGE:

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

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

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

1.5. DUTIES OF GATEMEN:

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

APPENDIX-'A'

2. <u>POSITION DURING PASSAGE OF TRAINS</u>:

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

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

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

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

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

3. <u>ROUTINE DUTIES OF GATEMAN</u>:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

xvii. Locking arrangement of gate should be checked daily.

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

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

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

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

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

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

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

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

5. <u>ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:</u>

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

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

vi). Having returned to the gate, he must then take steps to remove the obstruction mobilizing any assistance locally available and warn the Loco pilot of the approaching train.

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

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

v). Thereafter, he shall proceed 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 mobilising any assistance locally available and warn the Loco pilot of the approaching train.

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) <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 Driver, owner and relay these details to the nearest Station Master or Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or through means available.

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.

APPENDIX-'A'

ANNEXURE-II

WORKING INSTRUCTIONS FOR "B1" CLASS INTERLOCKED LEVEL CROSSING GATE SITUATED AT KM 9/26-10/0 (KK-3) BETWEEN MVW-LVK.

(General Instructions are common for all types of Manned Level Crossing Gates)

1. Mode of operation:

Gate shall normally be kept open to road traffic, whenever it is required to close, Gateman on duty shall ensure clearance of road traffic, operate the Electrical lifting barrier as per the following procedure.

i. Buttons are provided on panel for closing and opening of LC gate respectively (marked as green 'G' for closing and locking & yellow 'Y' for opening respectively).

ii. The push button 'G' pressed, till the gate is closed and locked.

iii. After the gate is closed and locked against road traffic, then Key 'Y' can extracted from EKT-1.

iv. Key 'Y' thus extracted is inserted in EKT-2 & transmitted electrically to SM (VDU) in conjunction with switch 'GS' (Gate slot) reversed releases concerned UP & DN signals respectively.

v. For opening the gate, SM transmits control 46 Key 'Y' is extracted from EKT-2 & inserted in to EKT-1 and turned.

vi. Switch 'GS' is provided in gate lodge to put back the concerned UP & DN signals to ON in case of emergency.

vii. In case input power supply failure, G.K. shall operate the gate with the help of hand generator unit which is attached to gate panel for closing/opening of L.C. gate. There will be no indications on gate panel for closing/opening of L.C. gate and hence signals cannot be taken off.

viii. In case input power supply is available, but cable/hand generator failed, arrangement for direct mechanical hand cranking as explained vide point No.viii above is also available at the two pedestals. For operation of barriers EKT-3 is provided with crank handle. In this case also, no indications on panel are available and hence signals cannot be taken off.

Working of Emergency key:

1. Normally crank handle welded with Key 'K' remains inside the EKT-3 (provided in the sealed red box).

2. When the normal operation (Closing/opening) of booms fail from the gate panel, the gate man on duty will inform the SM/ASM on duty regarding the failure and seek his permission to use emergency key.

3. After obtaining permission from SM/ASM on duty, the gateman on duty will break the seal of the red box, open it and Key 'K' is extracted from EKT-3 (electromechanically free) for manual operation of individual lifting barrier by crank handling.

4. Extraction of Key 'K' shall put back all the signals to ON.

5. After completing the operation the EKT key welded with crank handle is to be inserted in the EKT-3 and the box is to be closed and S&T staff are to be advised to seal the red box.

WORKING OF SLIDING BOOM BARRIER IN CASE OF FAILURE/ DEFECTIVENESS OF LIFTING BARRIER.

1. Key 'Y1' when extracted from lock free EKT-4, makes road signal danger and actuates road hooter. Key 'Y1' unlocks the sliding barrier-1.

2. Sliding barrier-1 to be rolled across the road up to lock post. Key (chained with barrier) releases the lock plunger & key 'SB1'. Key 'SB1' when extracted lock the sliding barrier-1.

3. Similarly sliding barrier-2 after unlocking the pad lock, to be rolled across the road up to lock post. Key (chained with barrier) along with key 'SB1' inserted releases the lock plunger and key 'SB2'. Key 'SB2' when extracted lock the sliding barrier-2 and key 'SB1'.

4. Finally released key 'SB2' is to be transmitted electrically to SM through EKT-5 in conjunction with slot switch 'GS' reversed for taking off concerned signals.

2. Exchange of Private Number:

i) Before taking off departure signals, Station Master shall inform the gate man, the number, description and direction of train under exchange of private number.

ii) The gate man shall close the gate and transfer the key to the Station Master.

iii) The reception/departure signals will then be taken OFF.

iv) In order to ensure that road traffic is not held up for a long time, the Station Master must ensure that train is ready for departure in all respects before he advices to the gate man for closing the gate.

v) When a train has to be piloted to and from the station yard or any shunting movement is to be done, the staff deputed to pilot the train or to perform the shunting across the gate shall be personally responsible to ensure that the gate is closed against road traffic before allowing any movement across the gate.

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

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

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

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 gang man / 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 defective Telephone at the earliest.

viii). Normal working will be resumed only after S&T staff rectify the telephone and issue 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 the lifting barriers 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, gateman shall show green hand signal flag by day and green light by night to the driver of the approaching train.

v) Station master on duty shall issue a 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 Loco pilot before dispatching a train in the block section from his end.

vii) Station master will advise maintenance staff responsible for maintenance of lifting barriers to repair the defect at the earliest.

viii) Normal working will resumed only after maintenance staff repair the barrier and issue reconnection/fit memo for the same.

Note:

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

5. Failure of Gate Key with the gate in closed position, when Gate Key cannot be extracted for Opening the gate:

i). If the gate key cannot be extracted from the EKT, then gate man must immediately inform the SS/Dy.SS on duty on telephone, under exchange of private number.

ii). Thereafter, the gate must be treated as non-interlocked and produced for reception / Dispatch of trains as prescribed for non-inter locked gates, should be adopted.

iii). SS/Dy.SS on duty shall issue caution order to the loco pilot before dispatching a train.

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

v). SS/Dy.SS shall advice S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.

vi). Normal working will be resumed only after S&T staff repair the key transmitter and issue re-connection / fit memo for the same.

6. Failure of the Gate Key with the gate in open condition:

i). If the gate key cannot be extracted, then gateman must immediately inform the SS/Dy.SS on duty on telephone, under exchange of private number.

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

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

iv). SS/.Dy.SS on duty shall issue a caution order to loco pilot of a departing train.

v). He shall also advise the SS/Dy.SS at the dispatching end, under exchange of private number, to issue a caution order to the loco pilot before dispatching a train in the block section from his end.

vi). SS/Dy.SS shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.

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

viii). After rectification, the Emergency Key shall be replaced in the emergency key box and released by the S&T maintainer.

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

i). In case of an obstruction on line at a level crossing by gate is broken by a road vehicle which is fouling the track, or by lifting barriers or any other part of the gate foul the track or by any other obstruction at the gate, the gateman shall fix red banner flag by day and red lamp by night on posts provided at both ends of gate for this purpose. The banner flag shall be planted clear of the level crossing and at a distance of about 5 meters from the edge of the road/ obstruction.

ii). Immediately after this, the gateman shall advise the station master on duty regarding the defect/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 inform on phone.

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

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

vii). He shall note down particulars of the road vehicle, name of the driver, owner and relay these details to the station master who shall not start the train unless he has been assured by the gateman that the road vehicle of 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 to 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 reception/departure signal at 'ON' position 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 chains and padlocks and there after exhibit green hand signal, if 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.

8. <u>Obstruction on the track near level crossing gate:</u>

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and station master will adopt the procedure given under item No.7 above. If the obstruction fouls the level crossing gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

APPENDIX 'B' TO STATION WORKING RULES OF MALLIVIDU STATION

(Detail description of signalling and interlocking installations, instructions for working them normally and in emergencies etc. including power supply arrangements).

1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:

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

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

The Operator Console cum Visual Display Unit (VDU) in dual configuration is provided for operation of Signals, points, Crank handles and controls etc. A mimic yard diagram based on SI plan No. SI/23200 shall be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the station mimic diagram of VDU will be dynamically updated.

3. SYSTEM OVERVIEW

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

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

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

3.1. DUAL VDUs – MODE OF SELECTION:

The privilege has been given to the operator for controlling the station through VDU-1 or VDU-2 by selection through switch provided on the SM's table.

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

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

4.1. ICONS AND INDICATIONS PROVIDED ON THE VDU:

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

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1.	PC Control	Yellow light when key is 'ENABLE'	Ensures operation of VDU by authorized person	Protected by pass word
2.	---	Emergency Route release – UP & DN	Flashing indication appears when Emergency route release operation is initiated.	For each operation concerned counter shall register one count higher.
3.	Emergency Point operation key	Yellow light when key is 'IN'. Yellow light indication appears showing request for Emergency point operation is acknowledged.	Ensures emergency point operation by authorized person	Protected by Pass word. For each operation concerned counter shall register one count higher.
4.	Point failure Ack. button	Red	Flashing indication appears when any point fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement, buzzer stops. After verification at site inform S&T staff immediately if failure persists.

APPENDIX-'B'

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
5.	Signal failure Ack. button	Red	Flashing indication appears when any signal fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement, buzzer stops. Inform S&T staff immediately.
6.	CH-1, CH-2, CH-3, CH-4, ------, buttons	Yellow lamp indicates 'KEY IN'. Red lamp indicates ' CH LOCKED'	In normal condition yellow lamp will be lit. Whenever the crank handle is locked in route or otherwise red indication will glow.	
7.	'DN Train Entering Section' muting button	Yellow – acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	
8.	'UP Train Entering Section' muting button	Yellow – acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	
9.	UP Block release button	Yellow – Prepared for Block release.	On getting indication SM shall left click on the button icon which shall release Block Handle.	After complete arrival of train this will be activated
10.	DN Block release button	Yellow – Prepared for Block release.		
11.	Line Block button	Red when blocked	SS/Dy. SS shall point the curser on the icons provided on the berthing track and right click. One drop menu will appear indicating line blocked and un-blocked, SS/Dy. SS has to select the required menu.	When line block is selected the concerned button on the particular line turns to RED.
12.	L.C. Gate control-46 button	Yellow lamp indicates 'Gate Closed'. Red lamp indicates 'Gate LOCKED'.	SM shall right click on the button icon to select menu to Transmit / Receive/ emergency operation of gate as required.	In case of emergency operation 'Emergency gate release' indication will appear.

(S NIRANJAN KUMAR)
DSTE/CON/VSKP

(K.SIVA HARSHA)
DOM/WAT

APPENDIX-'B'

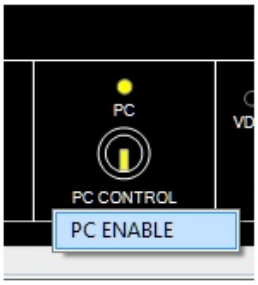
SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
				For each operation concerned counter shall register one count higher.

4.2. PC SM KEY:

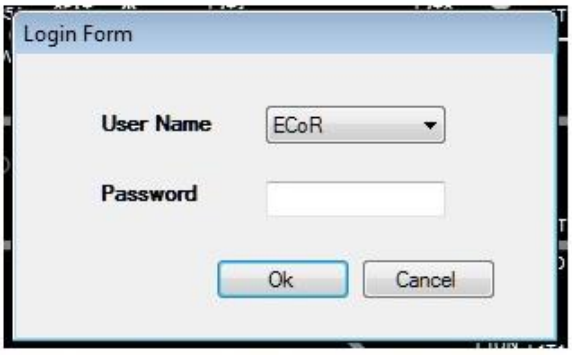
SM key is physically provided on VDU change over panel, outside the VDU on SM's Table. This key when inserted in the lock [provided on VDU change over panel] and turned right the VDU becomes operative. The key when inserted in the lock and either turned to left or extracted out from the lock renders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

PC Control:

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



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



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

a) Vital Interlocking Computer Status:

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

VIC – A Indications



VIC-A is Active



VIC-A is Stand By



VIC–A is Not Available

VIC –B Indications



VIC–B is Active

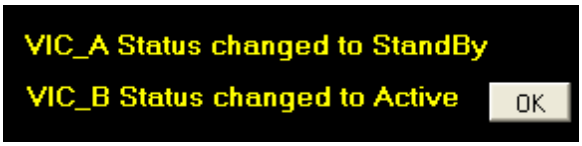


VIC–B is Stand by



VIC–B is Not Available

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



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

b) Link Status Indication:

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

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

APPENDIX-'B'



Channel –A Link Status is Healthy



Channel – A Link Status is Faulty



Channel – B Link Status is Healthy



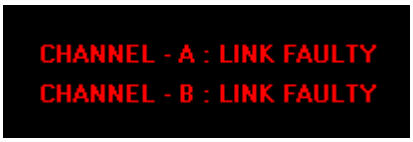
Channel – B Link Status is Faulty

Buzzer and Acknowledgment:

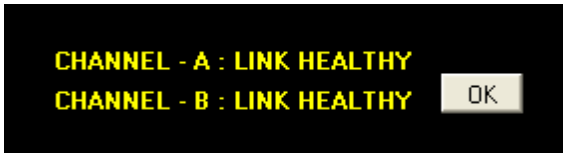
When Channel A link or Channel B Link fails, a Buzzer is turned on automatically to alert the operator. To acknowledge the fault, right click on this control, a pop-up menu is displayed and then click on the Ack menu option. The Buzzer stops when the fault is acknowledged by the Operator.



When any of the channels link fails, an indication is shown in red color.



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



Action by SM: If at least one of the Communication Channels is Healthy, EI VDU shall continue to function as usual emanating all indications. On observing

any communication channel faulty indication, SM shall acknowledge the fault and immediately inform the Signal Maintainer.

c) EI Equipment Critical Fault:

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



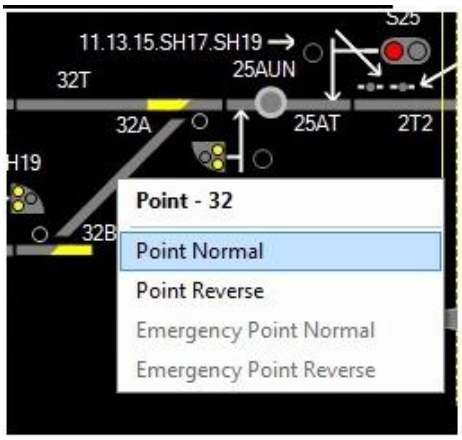
Action by SM: SM shall acknowledge the fault, inform the Signal Maintainer.

4.4. VDU ACTIVE INDICATIONS:

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

4.5. OPERATION AND INDICATION OF POINT:

To operate the point, the operator needs to track the mouse on to the concerned points then click the right button on the mouse. After clicking by the right button on the mouse a pop-up menu will appears as below. Then select the Normal/Reverse option on the menu appearing at the point in the operator VDU.



4.5.1. REVERSE TO NORMAL OPERATION:

Click on the **POINT NORMAL** in the menu appearing at the point in the operator VDU, Normal flashing indication will appear, the indication will be steady after the point is set to Normal.

4.5.2. NORMAL TO REVERSE OPERATION:

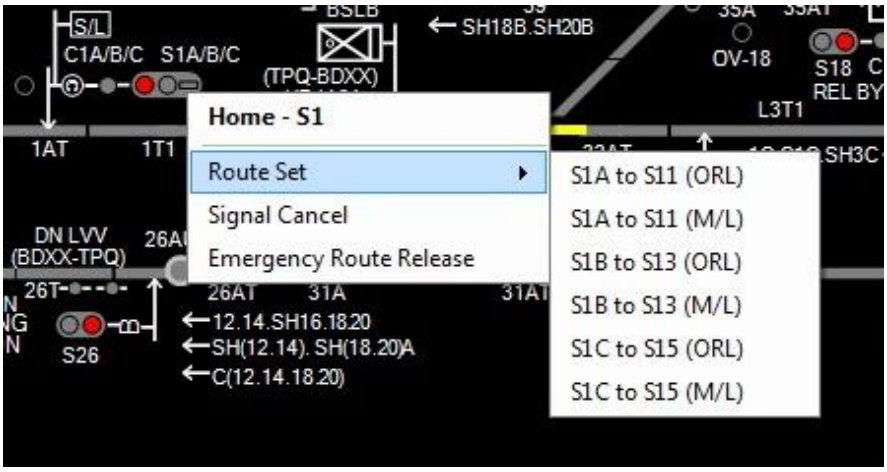
Click on the **POINT REVERSE** in the menu appearing at the point in the operator VDU, a Reverse flashing indication will appear, the indication will be steady after the point is set to Reverse.

4.5.3. POINT INDICATIONS:

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

4.6. SIGNAL OPERATION:

To take-off a signal on the desired route, the operator needs to Right click the mouse on the concerned signal on the operator VDU. After clicking on the Signal, a pop-up menu will appear as below for route set, signal cancellation and route release operations.



4.6.1. SETTING A ROUTE:

To set a route for a signal, track the mouse on the 'Route set' sub menu which shows all the possible routes of the signal, then click the left button of mouse on the required route on route set sub menu. After doing so, the route gets initiated & Red flashing indication appear on the replacement track of the signal. All the relevant points Normal/ Reverse set indications will start flashing if favorable point detection is not available. After setting of points in the route, overlap and isolation in required condition flashing indication will be steady and a complete yellow 'Route set' indication will appear over the route right from

replacement track of the signal to the last track of overlap section of the route. Also the point lock indication will appear through Red indication near the point. Finally a route locked yellow steady indication will appear immediate to rear of the signal. Now the signal will be taken-off. The yellow route set indication will turn to red when the train occupies the concerned track circuit.

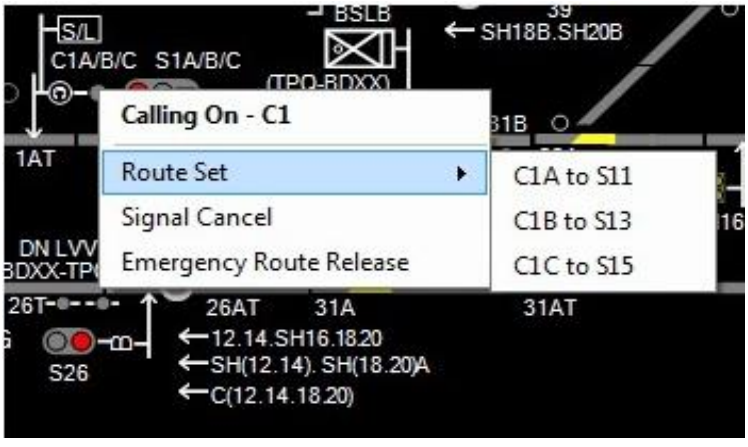
4.6.2. SHUNT SIGNAL OPERATION:

To set a route of a shunt signal, the same procedure as main signal has to be followed as explained above. To set the signal route for shunt signals SM on duty shall put the pointing device on the Shunt signal icon and right click on the same. After clicking on the Signal, a pop-up menu will appear as above for route set, signal cancellation and route cancellation operations. Track the mouse on the 'Route set' sub menu which displays all the possible routes of the signal, then click the left button of mouse on the required route on route set sub menu. After doing so, desired route will be initiated and the Shunt signal will be taken off.

4.6.3. CALLING ON SIGNAL OPERATION:

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

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

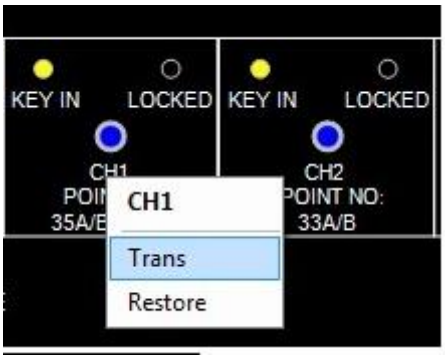


Then the SM must drag the pointer and click over the 'route set' sub menu which displays all possible routes then click over the particular Calling on route

amongst the various options displayed in the sub menu by the left button of the mouse as a result of which the calling–on signal will blink for 60 seconds. For all home signals the time delay is 60 seconds, the Calling on signal clears i.e. a white light glows at the concerned calling-on signal on the VDU. This action will be recorded in a respective counter of the counter box provided on SM's table. Every such operation shall be recorded by the SS/SM on duty along with the reasons to do so. The calling-on signal route can be released after complete arrival of the train by Signal cancellation only.

4.7. CRANK HANDLE CONTROL OPERATION:

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



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

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

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

4.8. OVERLAP TIME RELEASE:

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

5. EMERGENCY OPERATIONS:

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

5.1. CANCELLING A ROUTE/ EMERGENCY ROUTE RELEASE:

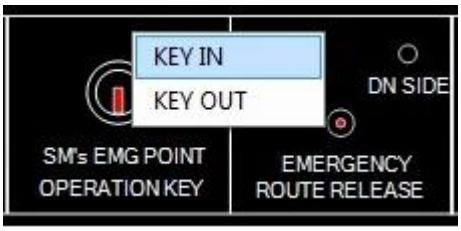
To cancel a signal route when the route is set and the signal in taken-off, click on the signal cancellation option on the menu (Main/ Calling on) of the concerned signal, the signal will immediately go to ON aspect, after doing so click on the emergency Route release option on the same menu a pop up menu will displayed for conformation. Since all the Signals are having Dead approach, the route locked indication near the signal start flashing. After the completion of 120 Seconds, route nomination and route locked flashing indication disappears and counter provided for the route release will change to next higher digit. This number should be recorded by the SM on duty who shall record the details of the Route cancellation along with the latest counter number in a register.

5.2. EMERGENCY POINT OPERATION:

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

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

Before doing the emergency operation, SM on duty shall enable the Emergency Point Operation Key. To 'KEY IN' the Emergency Point Operation the on-duty SM, by clicking on Emergency point operation Icon, a pop-up menu will appear as shown below.



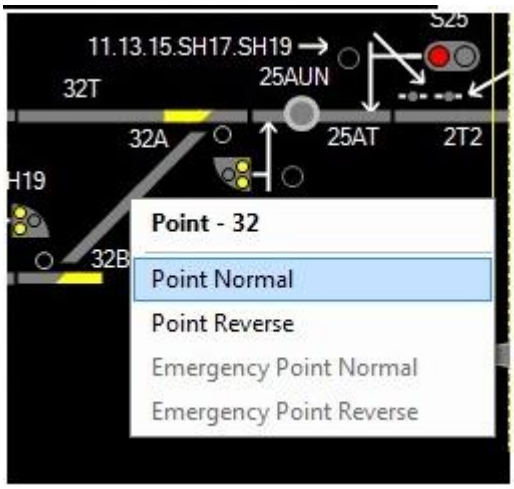
Click on the KEY IN in the menu appeared and should provide User name and password for the same as follows.



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

5.2.1. EMERGENCY NORMAL OPERATION:

Right click on the point, so that a pop-up menu will appear as follows.



Click on the emergency point normal from the menu then normal flashing indication will appear at the point. Flashing will stop and steady indication will appear after the point is set to Normal. This action will be recorded in a respective counter of the counter box provided on SM's table. The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM on duty who shall record the details of the Emergency Point Operation along with the latest counter number in a register.

5.2.2. EMERGENCY REVERSE OPERATION:

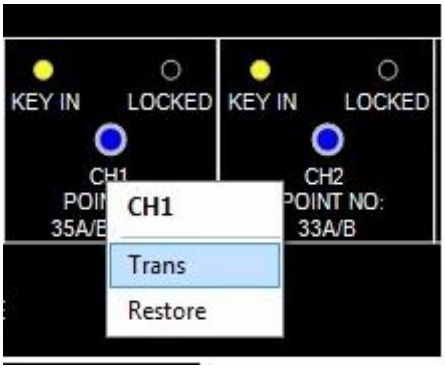
Right click on the point, so that a pop-up menu will appear as shown above, select the emergency point reverse from the menu then reverse flashing indication will appear at the point. Flashing will stop and steady indication will appear after the point is set to Reverse. This action will be recorded in a respective counter of the counter box provided on SM's table. The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM on duty who shall record the details of the Emergency Point Operation along with the latest counter number in a register.

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

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

5.3. EMERGENCY CRANK HANDLE RELEASE OPERATION:

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



For Transmitting the Crank Handle KEY to the field personnel SM on duty has to click on '**Trans'** menu. After transmission the 'KEY LOCKED' (Red) and 'KEY IN' (White) indications will start to flash for 120 seconds. After this the 'KEY LOCKED' indication will vanish & 'KEY IN' indication will start to flash. After extracting the key from the RKT, the 'KEY IN' indication will disappear. When the Manual point operation is over, after putting the crank handle key in the RKT, flashing 'KEY IN' indication will appear on the VDU, now the SS/DY. SS on duty shall Release the control for the Steady indication by clicking **'Restore'** menu.

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

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

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

CRANK HANDLE CONTROLS FOR EMERGENCY OPERATION OF POINTS			
S No	CRANK HANDLE	CONTROL POINTS	PROVIDED IN
1.	CH1	31A/B	UP CH LOC-1, KTV End
2.	CH2	33A/B	UP CH LOC-1, KTV End
3.	CH3	35A/B	UP CH LOC-2, KTV End
4.	CH4	32A/B	DN CH LOC-2, LVK End
5.	CH5	37A/B, 39	UP CH LOC-2, KTV End
6.	CH6	41A/B	H.A LOC-1A, KTV End
7.	CH7	43A/B	H.A LOC-2A, KTV End
8.	CH8	36A/B	DN CH LOC-1, LVK End
9.	CH9	34A/B, 45A/B	UP CH LOC-2, KTV End DN CH LOC-2, LVK End
10.	CH10	30A/B	DN CH LOC-3, LVK End

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

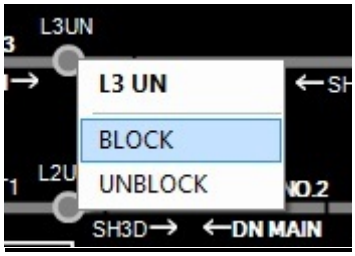
When both the EI systems fails to operate due to power failure or whatever the reason, all the crank handles are released at a time and the SM on duty can set the required point/ points through crank handles manually by extracting the key/keys from EKTs provided in the location boxes. The signaling staff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

5.4. BLOCK AND UNBLOCK (REMINDER COLLAR) OPERATION:

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

5.4.1. BLOCK OPERATION:

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



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

5.4.2. UNBLOCK OPERATION:

To release the blocking of any particular line, the SM on duty should select the Line Unblock option. After selecting the line unblock option that particular line will be available for the train movement leading to the all possible track circuit section.

6. DIGITAL AXLE COUNTER:

Digital Axle Counters are provided as a Last Vehicle Checking Device (LVCD) for Both UP and DN block sections between MVW-KTV and MVW-LVK.

For high reliability, High Availability Digital Axle Counters (HASSDAC) with dual detections are installed in MVW-LVK and KTV-MVW sections to ensure the working of at least one system at a time.

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

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

not come to 'OFF' and the concerned instrument shall remain locked in last operated position for that section.

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

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

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

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

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

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

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

b) SM of MALLIVIDU Station and KTV/LVK Station shall then Insert SM's reset key, and turn right.

c) Press simultaneously both the Push button and the Reset Key which are provided on the Reset Box for at least 5 seconds continuously at MVW and KTV/LVK station.

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

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

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

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

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

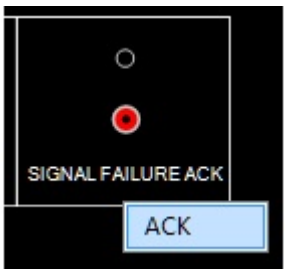
i) The SM on duty shall record it in the Train Signal Register indicating the resetting operations in detail i.e. train number, time, Private Number exchanged with SM of sending station and giving reasons for the resetting operation.

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

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

7. SIGNAL LAMP FAILURE INDICATION AND BUZZER ACKNOWLEDGMENT:

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



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

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

(S NIRANJAN KUMAR)
DSTE/CON/VSKP

(K.SIVA HARSHA)
DOM/WAT

APPENDIX-'B'



9. COUNTERS:

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

1. Emergency Route Release Counter.
2. Emergency Point Operation Counter.
3. Emergency Crank Handle Release Counter.
4. Emergency Gate release Counter.
5. Up Calling on Counter.
6. DN Calling on Counter.

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

10. TRACK CIRCUITS:

DN Loop, DN main line, UP main & DN Dispatch line & Common loop lines and all the point zones are track circuited as L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L3T1, L3T2, L3T3, L3T4, L4T1, L4T2, L4T3, L4T4, L5T1, L5T2, L5T3, 31/33AT, 31BT, 33BT, 35AT, 35/37/39T, 37AT, 45AT, 45BT, 5AT, 36T, 34AT, 34BT, 32AT, 32BT, 30AT, 30BT, 30BT1, 30BT2.

Approach track circuits 1AT & 2AT of 5 Rail length for Calling on Signal are provided in rear of the Up and DN Home signals respectively. In addition there are short length track circuits 1T1 & 1T2 in advance of UP Home Signal and 2T1, 2T2 in advance of UP Home Signal are also provided. Similarly there are 5 Rail length track circuits 26T beyond DN Advanced Starter Signal for replacement of Last Stop Signal and 25T beyond UP Advanced Starter Signal for replacement of Last Stop Signal. From the last trailing point/fouling mark in either side of yard to Advanced Starter Signals are also track Circuited i.e 26AT and 25AT in DN and UP directions respectively.

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

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

11. RELEASE/CANCELLATION OF ROUTE:

Normally when a train is received on or dispatch from any route, the route illumination will disappear automatically after passage of the train suggesting that the route is released. When the route is not released automatically after passage of train over it or when on SM on duty intends to cancel the route set by him shall follow the procedure for cancellation of route described in Para No.5.1 of Appendix-B above. If the route is not released even after resorting to cancellation the SM on duty should inform the Signal Maintainer/JE/SSE for its rectification.

Note: *UP & DN Calling on Signals and UP & DN Advanced Starter Signals are to be manually cancelled after the passage of the train to release the route. In both the cases after passage of train, cancel the signal to release the route.*

12. REPLACEMENT OF SIGNALS TO 'ON':

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

13. PILOTING OF TRAINS IN TO STATION YARD:

Whenever Home signal becomes defective, trains can be admitted by taking off Calling-on signal. Whenever both Home signal and Calling-on signal failed, all trains will be piloted in vide SR. [Refer SR 3.69.03(a) & (c)].

The SM on duty shall nominate a clear line and shall advise the TPM on duty at station to set the nominated route with the help of crank handle if the points cannot be set from the VDU. Then the TPM shall set the facing and trailing points and clamp and padlock the same under the supervision of SM on duty.

The SM on duty shall then hand over the written authority (T/369(3b) to the TPM for piloting the train. While going towards Home signal the TPM shall check the points and satisfy himself that the route is correctly set.

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

NOTE:

a) The Station Master on duty shall personally supervise the correct setting, clamping and padlocking of the facing points, if any and ensure clearance on the nominated route vide SR [Ref. SR 3.69.03(c)].

b) The keys of padlock of the clamps put on to the points on the route for piloting In or piloting OUT shall be in the personally custody of the SM on duty or any other authorized operating officials till such time the train / engine / vehicle has utilized the route or alternatively such movement is cancelled.

14. PILOTING OF TRAINS - OUT OF STATION YARD:

When the starter signal has become defective, the Station Master on duty shall advise the on duty TPM to set all points correctly for the outgoing trains. Then he shall clamp and padlock the same under the supervision of SM on duty. Then the SM on duty shall hand over the pilot memo T/369(3b) (along with the other authority if necessary) to the on duty TPM. The TPM on duty shall hand over the authority to the Loco pilot of the train and display proceed hand signal at the foot of the starter vide SR. [Refer SR 3.70.01].

In case the advanced starter signal has become defective, such signal shall be passed on the written authority on the form T/369(3b). The TPM shall hand over the pilot memo in form T/369(3b) to the Loco pilot after the train stopped. [Refer SR 3.70.02].

15. SHUNTING:

Shunt back signal SH-3(A-E) is provided towards KTV end of the yard. Shunt signal SH5 to receive trains from GSL Plant. Shunt Signal SH7(A/B) is provided on Shunting neck to receive the trains from the Shunting Neck. Shunt signal SH16 and Dependent Shunt signal SH18A/B and SH20 are provided towards KTV end for Line No.3, 4 & 5 respectively. Shunt back Signal SH-4(A-C) is provided towards LVK end of the yard. For taking OFF Shunt signals please refer Para No. 4.6.2 of APPENDIX-B.

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

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

17. OBSERVATION OF TRACK CIRCUIT AFTER 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 of four to five trains thereafter. If the Station Master on duty is not satisfied with the proper functioning of the track circuits on which the train was earlier stabled, the signals leading on the line shall be suspended and the S & T maintenance staff be informed to attend.

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

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

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

19. HOT AXLE SIDING:

19.1. WORKING OF HOT AXLE SIDING POINT NO.41A/B:

Electrical operation of siding control point No.41 is carried out at site from the Siding point 41A/B location No.1. In Siding point 41A/B location No.1 there are two EKT's namely EKT-1 & EKT-2, three buttons for normal and reverse operation along with common button. Point indications for normal & reverse and point free indications are provided. Working of Electrical operation of Siding Points is as follows:

1. To operate Siding point Key 'P' is required to be inserted in EKT-2.
2. Key 'P' can be extracted from EKT-1 only when SM extends permission from VDU. Extraction of Key 'P' from the EKT-1 will block all signaled movement on Line No.1.
3. Key 'P' when inserted in EKT-2, point free indication appears on the board. Point button and normal or reverse buttons are simultaneously pressed to set the point to normal or reverse as the case may be.
4. After setting of point to reverse key 'P' should be extracted from EKT-2 and kept in the custody of the shunting porter. Removal of key will lock the point.
5. After completion of the movement key 'P' is to be inserted in EKT-2 & siding point 41A/B is to be operated to normal. After ensuring both end of 41A/B in normal. Key 'P' is extracted from EKT-2 & inserted in EKT-1 to enable SM to release the control 41. Key 'P' in EKT-1 resume signaling movement over 41A/B in normal position.

6. Crank handle control CH-6 is to be taken out for crank handling the point 41A/B in case of failure of electrical operation.
7. To extract the crank handle CH-6 from RKT provided in H.A Location-1A, SM on duty should extend the control no 41 same as for electrical operation of siding point.

19.2. WORKING OF HOT AXLE SIDING POINT NO.43A/B:

Electrical operation of siding control point No.43 is carried out at site from the Siding point 43A/B location No.2. In Siding point 43A/B location No.2 there are the two EKT's namely EKT-1 & EKT-2, three buttons for normal and reverse operation along with common button. Point indications for normal & reverse and point lock/free indications are provided. Working of Electrical operation of Siding Points is as follows:

1. To operate Siding point Key 'Q' is required to be inserted in EKT-2.
2. Key 'Q' can be extracted from EKT-1 in H.A siding location No.2 only when SM extends permission from VDU. Extraction of Key 'Q' from the EKT-1 will block all signaled movement on Line No.1.
3. Key 'Q' when inserted in EKT-2, point free indication appears on the board. Point button and normal or reverse buttons are simultaneously pressed to set the point to normal or reverse as the case may be.
4. After setting of point to reverse key 'Q' should be extracted from EKT-2 and kept in the custody of the shunting porter. Removal of key will lock the point.
5. After completion of the movement key 'Q' is to be inserted in EKT-2 & siding point 43A/B is to be operated to normal. After ensuring both end of 43A/B in normal. Key 'Q' is extracted from EKT-2 & inserted in EKT-1 to enable SM to release the control 43. Key 'Q' in EKT-1 resume signaling movement over 43A/B in normal position.
6. Crank handle control CH-7 is to be taken out for crank handling the point 43A/B in case of failure of electrical operation.
7. To extract the crank handle CH-7 from RKT provided in H.A Location-2A, SM on duty should extend the control no 43 same as for electrical operation of siding point.

20. RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

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

21. PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:

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

22. EMERGENCIES:

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

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

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

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

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

4. When the Crank Handle key is removed from RKT for operation of the defective Motor Operated Points, the responsibility for its safe custody rests with the ASM/SM on duty till it is replaced back in RKT.

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

6. Whenever a Crank Handle key is required to be used by a Signal Official for maintenance/attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the Crank Handle register, the Station Master on duty will obtain acknowledgement of the Signal Official in the Crank Handle Register and then handover to him the

Crank Handle key for the Points concerned. All the Points will be treated as defective till the Crank Handle key is returned back to Station Master on duty.

7. Before parting with the Crank Handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.

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

   a. Date:
   b. Point Number which failed or required to be tested:
   c. Time failure:
   d. Disconnection memo number received from S&T Staff:
   e. Signature of SM/Signal Official to whom the Emergency Crank Handle is handed over:
   f. Time Emergency Crank Handle is sent out:
   g. Individual Point numbers, and Line number nominated for admission of dispatch for which Points are set, Clamped and Padlocked:
   h. Train number to be admitted or dispatched:
   i. Signature of the Station Master on duty to ensure correct setting, Clamping and Padlocking of the Points:
   j. Date and Time fault rectified.
   k. Time of Emergency Crank Handle received back by SM on duty:
   l. Signature and Designation of the Signal Official who rectified the fault:

24. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

24.1. INTERLCOKING WITH HOME SIGNALS:

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

24.2. INTERLCOKING WITH ADVANCED STARTER SIGNALS:

The UP Advanced Starter Signals No.26 is electrically interlocked with respective DLBI of section KTV-MVW so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in' LINE CLEAR' position.

The DN advanced starter signal No.25 is interlocked with TLBI of section LVK-MVW so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in' TRAIN GOING TO' position.

24.3. SUSPENSION OF LAST STOP SIGNALS:

When the Double line block instrument for section KTV-MVW is suspended with its handle in any position for whatever reason the concerned Last Stop Signals controlled by the DLBI must be treated as suspended and trains shall be Piloted Out.

When the TLBI instrument for section LVK-MVW is suspended with its handle in any position for whatever reason the concerned Last Stop Signals controlled by the TLBI must be treated as suspended and trains shall be Piloted Out.

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

1. High availability Digital Axle Counters (HASSDAC) are provided on Up and Down Block Sections between KTV-MVW and SSDAC on single line between LVK-MVW.

2. The occupation and clearance of the axle counter section are indicated on the VDU by 'RED' and 'GREEN' light.

3. If any Block proving Axle Counter [LVCD] section fails, the Last Stop Signal at the rear station cannot be taken 'OFF' and Block instrument at Advance Station cannot be turned to 'Line Closed' position after arrival of a train and in such case, resetting of last Vehicle Checking Device is to be resorted to in either Section.

4. No train shall be allowed on signal to leave a station in any particular direction unless:

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

26. 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). Standby power supply: Andhra Pradesh State Electricity Board Supply.

Normal power supply [Single-phase 230V-50 HZ] to the signalling and interlocking installation at the station is drawn from the traction power sources

through ATs. Whenever traction power supply fails the SM on duty shall operate the changeover switch provided in the SM's office connecting the power supply from the healthy sources to the installation in case the knob is not in Auto mode.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SN	Instruction	Health of Battery Bank/Equip ment.	Visual Indication	Audio Indication	Action to be taken by SM on duty
A	-	50% DOD	Red	Alarm	Alarm shall be acknowledged by SM on duty.
B	-	60% DOD	Red	Alarm	-do-
C	System shutdown	70% DOD	Red	Alarm	Signal feed cut off and all DC-DC converters to Work. Audio alarm will continue till power Supply is restored.
D	Call S&T staff.	Equipment fault.	Red	Alarm	Failure of any module

APPENDIX-'B'

SN	Instruction	Health of Battery Bank/Equip ment.	Visual Indication	Audio Indication	Action to be taken by SM on duty
					will give the alarm in ASM's panel. Alarm shall be acknowledged by SM on duty for audio cut off.

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

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

28. WORKING OF AUTOMATIC FIRE ALARM DETECTION SYSTEM:

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

- If the power ils on this will enable us to see the red indicator on the panel.
- In case of failure in power and if the battery is fully charged, the panel can function effectively as long as the charge in the battery is present.

AUTO DIALLING:

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

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

-NIL-

APPENDIX 'D'

DUTIES TO BE PERFORMED BY THE STAFF AT MALLIVIDU STATION:

STATION MASTER (IN CHARGE):

The duties prescribed in OM 2015, Para no. 2.02 (a) to be followed in addition to the duties prescribed below.

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

ii) He shall handle the block instrument himself when on duty and shall not permit any unauthorized person to manipulate or handle the block panel/block instrument and block telephone.

iii) He shall keep the station master's control keys of block instruments in his personal custody whenever, he is required to leave his office even for a short duration.

iv) He shall maintain TSR and other connected record/documents in good Shape and ensure that all entries are completed and are up to date.

v) He shall attend the control and given arrival departure of trains promptly and shall carry out instruction given by superiors provided these do not Violate safety rules & procedures.

vi) He shall inform the Technician/JE/SE(Sig) through a written message, any failure of signal or block working etc. and invariably enter these failures in Signal Failure Register.

vii) In case of any accident, he shall inform the Section Controller & Station Manager/Station Superintendent immediately. He shall give all the information available with him in regard to the nature, places, cause and assistance etc. in respect of the accident.

viii) He shall communicate reasons for late start of outgoing trains and late arrival of incoming trains to control.

ix) He shall keep his reference books (trains working manuals) up to date, Posted with latest correction slips and shall keep himself fully conversant With the extant rules. He shall keep his books readily available for Inspection when asked to do so.

x) He shall not absent himself from duty without prior permission of his superiors. He shall not leave his duty unless properly relieved by his reliever and shall not exchange his duty without prior permission of his superiors.

APPENDIX-'D'

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

xii) He shall always obey the lawful orders of his superiors so long as they do not contravene any of the extant rules in force.

xiii) In case of any abnormal working, he shall also perform the duties assigned to VDU ASM/SM.

SS/SM/VDU:

He is responsible for trains passing during his shift as per OM 2015 Para No.2.02 (b) and 2.02 (c).

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 &GR.

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

iv) He shall keep the SM's 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.

APPENDIX-'D'

TRAFFIC POINTSMAN/TOKEN PORTERS:

He shall work under the orders of SS/SM on duty as per OM 2015 para No.2.02 (f).

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.

xii) In case of track failure he shall assist the SM to ascertain the clearance of line.

xiii) He shall be responsible for lighting up of the indicators in the evening and putting out in the morning time fixed by DRM office and ensure that these are burning brightly at night.

GATEMAN:

APPENDIX-'D'

He shall work under the orders of SS/SM on duty as per OM 2015 para No.2.02 (g).

i) He shall be responsible for proper operation of the gate as per GWRs for the passage of trains.

ii) He shall ensure that no train suffers any detention on account of late closing of the gate.

iii) He shall keep the channels of check rails clean and shall clean the road within the railway limits and water the area regularly.

iv) He shall clean the gate lamps and hand signal lamps daily if provided. He shall ensure that the wicks of the burners are trimmed so that these are lighted properly and kept burning continuously from sun set to sunrise.

v) He shall keep the surrounding of his gate lodge clean tidy and neatly planted with shrubs, plants etc.

vi) He shall remain alert on duty till properly relieved. If he is required to leave the gate in emergency he shall close and lock the gate booms against the road traffic before leaving the gate.

vii) He shall ensure that equipment at LC gate are complete and in working orders.

viii) He shall produce the public compliant book when required by public for lodging compliant and to the railway officials for inspection.

ix) He shall ensure that road traffic is not unnecessarily held up at the gate.

x) He shall stand in attention near the gate lodge facing the track and be prepared to repeat any signal which the guard may intend to convey to the loco pilot or show caution or danger signal should anything appear to be wrong with the train itself as it passes.

xi) He shall be polite and courteous in his behavior towards the public.

xii) He shall report any defect in the gate to the station master on duty without delay.

xiii) He shall close the gate in sighting a train if not informed earlier or when ordered by the station master on duty.

xiv) He shall attract the attention of the loco pilots and guards by shouting and gesticulating instead of showing danger signal in case of train parting.

xv) He shall obey all lawful orders of the SM on duty.

xvi) In case of any obstruction, accident or damage to the gates, he shall protect the gate/obstruction as per instructions and rules in force.

APPENDIX-'E'

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

ESSENTIAL EQUIPMENT:

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

Sl. No	Description	Station
1	Detonators	20
2	Battery operated LED based flashing Hand Signal lamps	3(1 spare)
3	Hand Signal Flags	3(1spare)sets
4	Safety chains with Pad locks	6
5	Clamps with Padlocks	8
6	Fire Extinguishers DCPT	2
7	Fire & Sand buckets	5
8	Motor trolley online board	2
9	Block suspension board	2
10	Wedges	4
11	Iron skids	6

APPENDIX 'F' TO STATION WORKING RULES OF MALLIVIDU

WORKIG OF D.K.STATIONS, HALTS, IBS AND OUTLYING SIDINGS:

---NIL----

APPENDIX- 'G'

MALLIVIDU STATION

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS:

DETAILS OF WORKING RULES OF 25KV AC TRACTION.

EAST COAST RAILWAY

WALTAIR DIVISION

APPENDIX- 'G'
TO
SWR
OF
MALLIVIDU
STATION

(IN CONNECTION WITH COMMISSIONING OF LAKKAVARAPUKOTA SSP)

(DRG. No. WAT/TRD/SWR/MVW/399/2020)

APPENDIX-G

STATION WORKING RULES FOR 25 KV A.C ELECTRIC TRACTION

MALLIVIDU 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. **WAT/TRD/SWR/MVW/ ** 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 GR 17.04.09 and ACTM 20600,20601, Vol.II Pt.I.

II) "In case of emergency, Authorized and trained station staff may open Isolator switches under specific instructions of the Traction Power Controller (GR.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".

SN	Isolator No.	Loc. No.	SN	Isolator No.	Loc. No.	SN	Isolator No.	Loc. No.
1	SM/602	8/37	5	SS/611A	GS/117	9	SS/611	GS/77
2	SM/602T	9/7	6	SS/613	MVW/1038	10	SS-614A	MVW/1055
3	SS/615	MVW/1111	7	SS/612	GS/76	11	SM/603	10/5
4	SS/614	MVW/1101	8	SS/612A	GS/116			

6. POSITION OF SWITCH HANDLES :

When a switch is in the closed position, the operating handle of the Switch is at the top.

7. LOCATION OF KEYS OF SWITCHES : The keys for the padlocks of various isolator switches are kept in the ASM's Office in a box with a glass mounted cover (GR 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. PROCEDURE AND PRECAUTIONS FOR OPERATING ISOLATORS :

The procedure for Operation of Isolator Switches have been given in and GR 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 (GR.17.04.15).

9. **POWER BLOCKS** :

i) The detailed procedure for obtaining Power Block has been given in (GR.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. PROTECTION AT THE TIME OF POWER BLOCK :

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 authorized 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 (GR 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 (GR 17.04.12) ACTM 20610 Vol.II Pt.I.

14. MOVEMENT OF DIESEL ENGINES OR TRAINS HAULED BY SUCH ENGINES

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

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

(b) Other than Electric trains hauled by such engines shall be brought to a stand at the station preceding the station/section at which power block is granted and the Station Master 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. CRANES: No crane shall be worked on or near Traction over head equipment, unless such equipment is first made dead and earthed and authorized representative of the OHE section is present (SR. 17.04.17(a) & (b))

18. 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)

19. BLOCK INSTRUMENTS OR ANY OTHER ELECTRICAL,SIG.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 & Telecom 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

20. 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

21. 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.

22. F I R E : Regarding Fire on or adjacent to any Electrical equipment refer GR 6.10 & SR there to **23.** 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.

24. 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.

25. 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.

LIST OF TSS/SSP/SP

Sr.No	TSS/SSP/SP	Location
1	Kottavalasa/SP	4/857.49
2	Mallividu/SSP	9/332.64
3	Lakkavarapukota/SSP	16/867.42
4	Shrungavarapukota/TSS	26/576.00

.

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, earthed and 'Permit to Work' obtained from an authorized traction staff.
3. Do not permit unauthorized persons to operate any equipment even if it be for making it dead.
4. Do not disturb any earthing bonding' or 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.
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 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.

ANNEXURE TO APPENDIX-G

STATION WORKING RULES OF **MALLIVIDU STATION** FOR 25 KV AC TRACTION

THESE RULES SHALL BE READ IN CONJUNCTION WITH THE STATION WORKING RULES IN FORCE

S. No.	Description	Steps of precautions to be taken during power block 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 Block
		Longitudinal Protection	Transverse protection		
1	2	3	4	5	6
	A.SECTOR				
1	1)Sector between Simhachalam North/TSS to Kantakapalli/SP on Up Line, Middle Line & Down Line and to Kottavalasa/SP on KK Line Up Line:- E/Sections X-171, X-172, 20501, 20503, 20505, 20507, X-340, 21501, 21503 and 21505. Middle Line:- E/Sections 20301, 20302, 20303, 20304, 20305, 21701, 21702, 21703, 21704, 21705 and 21706. Down Line:- E/Sections 20202, 20204, 20206, 20208, 22002, 22004, 22006, 22008 and 22010. KK Line:- E/Sections 20601, 20602, 21801, 21802, 21803, 21804, 21805, 21806 and 21807.	1) Line clear shall not be granted to Kottavalasa for UP trains. 2) Line clear shall not be obtained from Kottavalasa for DN trains. 3) Concerned Reception & Dispatch signals shall be kept at 'ON'.	NIL	1)Ensure BM-226, BM-227 are in open position at Kantakapalli/SP. 2) Ensure BM-401 and BM-402 is in open position at Kottavalasa/SP. 3)Ensure SM/85 at Loc. 870/27A at Simhachalam North Yard is in open position. 4)Ensure SM/40 at Loc. 870/24A at Simhachalam North Yard is in open position. 5)Ensure SS/112 at Loc. 869/46X at Simhachalam North Yard is in open position. 6)Ensure SS/101 at Loc. 868/1001 at Simhachalam North Yard is in open position. 7)Ensure SM/180 at Loc. 869/1011A at Simhachalam North Yard is in open position. 8)Ensure SS/170 at Loc. RY/27 at Reception Yard of Waltair Marshalling Yard is in open position.	
				1)Open CB/92 at Simhachalam North/TSS	1) Close CB/92 at Simhachalam North/TSS

1	2	3	4	5	6
2	2) Sector between Shrungavarapukota /TSS to Kottavalasa/SP (E/sections 41301, X-625, X-622, X-623,41204, 41206, 41303, 41002, 41004, X-620, 40901, 40903, 40602, 40501, X-615, 40401, X-612, X-611, X-614, X-619, 40503)	1)Movement of Electric Trains / Electric Locos shall not be permitted into section Kottavalasa – Mallividu-Lakkavarapu Kota on KK Line. 2)Line clear shall not be granted / obtained to / from Kottavalasa for Electric Trains / Locos on KK UP/DN Lines. 3)Line clear shall not be granted / obtained to / from Lakkavarapukota for Electric Trains / Locos on KK Line. 3)Concerned Reception and Dispatch Signals shall be kept at 'ON'.	Nil	1) Ensure BC-3 is in open position at Shrungavarapukota /TSS. 2) Ensure BM-401 and BM-402 is in open position at Kottavalasa/SP. 3) Ensure SM-626T is in open position at Loc.No 26/19 at Shrungavarapukota yard.	
				1) Open CB/06 at Srungavarapukota /TSS.	1)Close CB/06 at Srungavarapukota/ TSS.
	B. SUB-SECTOR				
3	1)KK Line Sub-sector from Pendurti/SSP to Kottavalasa/SP (i.e. E/Sections 21801, 21802, 21803, 21804 21805, 21806 and 21807)	1) Line clear shall not be granted to Kottavalasa for UP trains. 2) Line clear shall not be obtained from Kottavalasa for DN trains. 3) Concerned Reception & Dispatch signals shall be kept at 'ON'.	NIL	1)Ensure BM-401 and BM-402 is in open position at Kottavalasa/SP. 2)Ensure SM/200 at Loc.861/2/1 at Pendurti Yard is in open position. 3)Ensure SM/219 at Loc. 852/22K at Kottavalasa Yard is in open position . 4)Ensure SM/223 at Loc. 852/4K at Kottavalasa Yard is in open position.	
				1)Open BM-218 at Pendurti/SSP.	1)Close BM-218 at Pendurti/SSP.
4	2)Sub- Sector between Lakkavarapukota/SSP to Mallividu/SSP of sections between Lakkavarapukota to Mallividu Line No.1. (E/sections 40901, 40903, X-619, 41002, 41004 & X-618)	1) Line clear shall not be granted to Lakkavarapu kota for DN trains. 2) Line clear shall not be obtained from lakkavarapu kota for UP trains. 3) Concerned Reception & Dispatch signals shall be kept at 'ON'.	1)Point Nos. 30A&B, and 33A&B shall be kept in Normal Position.	1) Open BM-409 & BM-410 at Lakkavarapukota /SSP. 2) Open BM-02 at Mallividu/SSP. 3)Open SM/603 at Loc. 10/5 at Mallividu yad. 4)Close BM-401 and BM-402 at Kottavalasa/SP.	1)Open BM-401 and BM-402 at Kottavalasa/SP. 2)Close BM-409 & BM-410 at Lakkavarapukota /SSP. 3)Close BM-02 at Mallividu/SSP. 4)Close SM/603 at Loc. 10/5 at Mallividu yard.

1	2	3	4	5	6
5	3) Mallividu/SSP to Kottavalasa/SP (i.e. E/Section 40602,40501, 40503,X-615, X-614, 40401, X-611 & X-612)	1)Ensure that no electric loco with its pantograph raised condition on Line Nos. 2 to 4 and GSAL siding. 2) Line clear shall not be granted to Kottavalasa for UP trains. 3) Line clear shall not be obtained from Kottavalasa for DN trains. 4) Line clear shall not be obtained from lakkavarapu kota for UP trains. 5) Concerned Reception & Dispatch signals shall be kept at 'ON'.	1) Point No.30A&B and 33A&B shall be set to normal position.	1)Ensure BM-401 and BM-402 is in open position at Kottavalasa/SP	
				1)Open BM-02 at mallividu/SSP. 2) Open SM/603 at Loc. 10/5 at Mallividu yard	1)Close BM-02 at Mallividu/SSP. 2) Close SM/603 at Loc. 10/5 at Mallividu yard
	ELEMENTARY SECTIONS:				
6	1) E/S 41004 between SM-604 at location No.14/34 of Lakkavarapu kota Yard to Mallividu/SSP including Line -1 & HA Siding.	1)Ensure that no electric loco with its pantograph raised condition on Line Nos. 1 & HA Siding. 2) Line clear shall not be granted to Lakkavarapukota for DN trains. 3)No shunting movement allowed in the yard towards KRDL yard on DN Line. 4) Concerned Reception & Shunt signals shall be kept at 'ON'.	1) Point No.30A&B and 33A&B shall be set to normal position.	1) Open CB-06 at Shrungavarapu kota/TSS. 2) Open BM-02 at Mallividu/SSP 3) Open SM-604 at at location No. 14/34 of Lakkavarapu kota Yard. 4) Close CB-06 at Shrungavarapu kota/TSS.	1) Close SM-604 at location No. 14/34 of Lakkavarapu kota Yard. 2)Close BM-02 at Mallividu/SSP

1	2	3	4	5	6
7	2)UP Line E/Section 40503 between Kottavalasa/SP to SM/602 at Loc. 8/37 at Mallividu yard.	1) Line clear shall not be granted to Kottavalasa for UP Electric locos/trains. 2) Admission of UP trains on Line No.3 & 4 is prohibited. 3) Concerned Reception & Dispatch signals shall be kept at 'ON'.	1)Point Nos.35A&B and 31A&B shall be kept in Normal Position.	1) Ensure BM-401 is in open position at Kottavalasa/SP.	
				1)Open BM-02 at Mallividu/SSP 2)Open BM-403 at Kottavalasa SP. 3) Open SM/602 at Loc. 8/37 at Mallividu yard 4)Close BM-02 at Mallividu/SSP	1) Close BM-403 at Kottavalasa SP. 2)Close SM/602 at Loc. 8/37 at Mallividu yard.
8	3)DN KK Line E/Section 21806 between SM/222 at Loc.852/8K and Kottavalasa/SP.	1) Line clear shall not be obtained from Kottavalasa for DN trains. 2) Concerned Dispatch signals shall be kept at 'ON'..	Nil	1)Ensure SM/200 at Loc. No. 861/2/1 at Pendurti is in open position. 2)Ensure SM/223 at Loc. 852/4K at Kottavalasa Yard is in open position. 3) Ensure BM-401 and BM-402 is in open position at Kottavalasa/SP. 4)Ensure SM/219 at Loc.852/22K at Kottavalasa Yard is in Open position .	
				1)Open BM/218 at Pendurti/SSP. 2)Open SM/222 at Loc.852/8K at Kottavalasa Yard. 3) Open BM-400 at Kottavalasa SP. 4)Close BM/218 at Pendurti/SSP.	1)Close SM/222 at Loc.852/8K at Kottavalasa Yard. 2) Close BM-400 at Kottavalasa SP.

1	2	3	4	5	6
9	4)UP KK Line E/Section 21807 between SM/600 at Loc.0/29 and Kottavalasa/SP.	1) Line clear shall not be granted to Kottavalasa for UP Electric locos/trains. 2) Concerned Reception signals shall be kept at 'ON'..	Nil	1)Ensure SM/200 at Loc. No. 861/2/1 at Pendurti is in open position. 2)Ensure SM/223 at Loc. 852/4K at Kottavalasa Yard is in open position. 3) Ensure BM-401 and BM-402 is in open position at Kottavalasa/SP. 4)Ensure SM/219 at Loc.852/22K at Kottavalasa Yard is in Open position	
				1)Open BM/218 at Pendurti/SSP. 2)Open SM/600 at Loc.0/29 at Kottavalasa Yard. 3) Open BM-400 at Kottavalasa SP. 4)Close BM/218 at Pendurti/SSP.	1)Close SM/600 at Loc.0/29 at Kottavalasa Yard. 2) Close BM-400 at Kottavalasa SP.
10	5)UP KK Line E/Section 40501 between SM/602 at Loc. 8/37 to SM/603 at Loc. 10/5 on line no.3 at Mallividu yard.(E/Section X-615, X-614 and GSAL siding i.e. X-611, X-612 and 40401 also gets blocked)	1))Ensure that no electric loco with its pantograph raised condition on Line Nos.3,4,5 and GSAL siding. 2)Line clear shall not be granted to Kottavalasa for UP Electric locos/trains. 3) Line clear shall not be obtained from lakkavarapu kota for UP trains. 4) Admission/Dispatch of UP trains On/from Line No.3, 4 & 5 is prohibited. 5) No shunting movement allowed in the yard towards KRDL yard on UP Line. 6) Concerned Reception, Dispatch & Shunt signals shall be kept at 'ON'.	1)Point nos.30A&B and 35A7Bshall be kept in Normal Position.	1)Open SM/603 at Loc.10/5 at Mallividu. 2)Open SM/602 at Loc. 8/37 at Mallividu yard. 3) Open SM/602T at Loc. 9/7 at Mallividu yard	1)Close SM/603 at Loc.10/5 at Mallividu 2)Close SM/602 at Loc. 8/37 at Mallividu yard. 3)Close SM/602T at Loc. 9/7 at Mallividu yard.

1	2	3	4	5	6
11	6)UP KK Line E/Section 40903 between SM/603 at Loc. 10/5 at Mallividu yard to SM/605 at Loc. 15/35 at Lakkavarapukota yard.	1) Line clear shall not be obtained from lakkavarapu kota for UP trains. 2) No shunting movement allowed in the yard towards KRDL yard on UP Line. 3) Concerned Dispatch & Shunt signals shall be kept at 'ON'.	Nil	1)Open CB-06 at Shrungavarapukota/TSS. 2)Open SM/603 at Loc.10/5 at Mallividu. 3)Open SM/605 at Loc. 15/35 at Lakkavarapukota yard. 4) Close CB-06 at Shrungavarapukota/TSS.	1)Close SM/603 at Loc.10/5 at Mallividu 2)Close SM/605 at Loc. 15/35 at Lakkavarapukota yard.
12	7)DN Line E/Section 40602 between Kottavalasa/SP to Mallividu/SSP.	1)Ensure that no electric loco with its pantograph raised condition on Line Nos. 2. 2) Line clear shall not be obtained from Kottavalasa for DN trains. 3) Dispatch of DN trains from Line No.1, 4 & 5 is prohibited. 4) Concerned Dispatch signals shall be kept at 'ON'.	1)Point Nos.31A&B and 33A&B shall be kept in Normal Position.	1) Ensure BM-402 is in open position at Kottavalasa/SP. 1)Open BM-02 at Mallividu/SSP. 2)Open BM-403 at Kottavalasa SP. 3) Open SM/602T at Loc. 9/7 at Mallividu yard	1)Close BM-02 at Mallividu/SSP. 2) Close BM-403 at Kottavalasa SP. 3)Close SM/602T at Loc. 9/7 at Mallividu yard.
13	8) E/Section X-615 between SS-615 at location No.MVW/1119 of Mallividu Yard to GSAL Plant including Line -4 & 5 (E/Section X-611,40401, X-614 and X-612 also gets blocked.)	1)Ensure no electric loco with its panto raised condition in the GSAL siding & Line No.4 & 5 of Mallividu station. 2) Admission or despatch of UP or DN trains is prohibited on line no.4 3) Concerned Reception and despatch signals shall be kept at 'ON'.	1) Point no.32A&B and 35A&B shall be kept in normal position.	1) Open SS-615 at location No. MVW/1111 of Mallividu Yard.	1) Close SS-615 at location No. MVW/1111 of Mallividu Yard.

1	2	3	4	5	6
14	9)E/Section X-614 between SS-614 at location No.MVW/1101 to SS-614A at location No.MVW/1055 of Mallividu Yard	1)Ensure no electric loco with its panto raised condition in the Line No. 5 of Mallividu station. 2) Admission or despatch of UP or DN trains is prohibited on line no.5 3) Concerned Reception and despatch signals shall be kept at 'ON'.	1) Point no.34A&B & 45A&B shall be kept in normal position.	1)Open SS-614 at location No. MVW/1101 of Mallividu Yard. 2)Open SS-614A at location No. MVW/1055 of Mallividu Yard.	1)Close SS-615 at location No. MVW/1101 of Mallividu Yard. 2)Close SS-614A at location No. MVW/1055 of Mallividu Yard.
15	10)E/Section 40401 between SS-613 at location No.MVW/1038 of Mallividu Yard to GSAL Plant. (E/S X-611 and X-612 also gets blocked.)	1)Ensure no electric loco with its panto raised condition in the GSAL siding. 2) Admission or despatch of electrical trains to GSAL Siding is prohibited from any line 3) Movement of electrical train is prohibited on GSAL Siding.	1) Point no.37A&B shall be kept in normal position.	1) Open SS-105 at location No.MVW/1038 of Mallividu Yard.	1) Close SS-105 at location No.MVW/1038 of Mallividu Yard.
16	11)E/Section X-612 between SS-612 at location No.GS/76 to SS-612A at loc.GS/116 of Line/3 of GSAL Plant Terminal yard.	1)Ensure no electric loco with its panto raised condition in the GSAL siding. 2)Dispatch of electr ical trains to line No.4 is prohibited.	1) Concerned Hand points shall be set against entry of any electric traffic.	1) Open SS-612 at location No.GS/76 of Mallividu Yard. 2) Open SS-612A at location No.GS/116 of GSAL Plant	1) Close SS-612A at location No.GS/116 of Mallividu Yard. 2) Close SS-612 at location No.GS/76 of GSAL Plant
14	12)E/S X-611 between SS-611 at location No.GS/77 to SS-611A at loc.GS/117 of Line/1 of GSAL Plant Terminal yard.	1)Ensure no electric loco with its panto raised condition in the GSAL siding. 2) Admission or despatch of electrical trains to GSAL Siding is prohibited from any line .	1) Concerned Hand points shall be set against entry of any electric traffic.	1) Open SS-611 at location No.GS/77 of Mallividu Yard. 2) Open SS-611A at location No.GS/117 of GSAL Plant.	1) Close SS-611 at location No.GS/117 of Mallividu Yard. 2) Close SS-611A at location No.GS/77 of GSAL Plant.

NOTE :-

1) For any unusual movement of electric locomotive, the station master on duty must refer to the station working rules, Diagrams of his Station and ensure that there is no chance of energizing the section where power block has been granted.
2) Points leading to unwired tracks shall not be used for movement of electric locos with pantograph raised.
3) Refer latest Drawing no. WAT/TRD/SWR/MVW/399/2020.

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