East Coast Railway
Waltair Division

Station Working Rules
of
CONCOR Siding (CCJS)

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Index of Correction Slips

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EAST COAST RAILWAY
WALTAIR DIVISION

STATION WORKING RULES OF CONCOR SIDING [BROAD GAUGE]

Date of Issue: **12-09-2023**
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:

(i)The Station Working Rule diagram no: SI/WRD/23138 Alt-B
(ii)CSTE/East Coast Railway Signal Interlocking Plan No: SI/23138 Alt-B
(iii) Date up to which corrected:- **11-09-2023**

2. DESCRIPTION OF STATION:

CONCOR siding cabin is a standard-II® 'SPL' class twin single line station with MACLS on the Simhachalam- Jaggayyapalem single line B.G.section of E.Co.Rly on 'E' route. It is situated at km 3.4 KM from SCMN and provided with central VDU and 2nd VDU as stand by option.

2.1 GENERAL : LOCATION:

a) Name of the station	CONCOR SIDING CABIN
b) Class of station	'SPL' class
c) Section	Simhachalam- Jaggayyapalem
d) Double line/Single line	Twin Single line
e) Electrified/Non Electrified	Electrified
f) Gauge BG/MG/NG	BG
g) Railway	East Coast Railway
h) Route	'E'
i) Situated at	Km 3.4
j) Reckoned from	Simhachalam North (SCMN)
k) Operation	Centrally operated VDU.

2.1(a)

CABIN LINES	CABIN LIMITS	
VSP LINE NO.1	UP DISTANT UD1	DN HOME no 4
VSP LINE NO.2	UP distant UD3	DN home no. 8

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

S.No	Adjacent Block-section	Distance	Direction
1	SIMHACHALAM NORTH	3.4 km	HWH end
2	JAGGAYYAPALEM	2.2 km	VSP end

S. No	Adjacent Block-section	Distance
3	Provision of IBS	Nil
4	Automatic signal	Nil
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
CCJS Cabin-JGPM Line-1	From Take off point no. 52A of CONCOR siding cabin.	DN Advanced starter signal no. 40 of JGP on VSP L-1.
CCJS Cabin-JGPM Line-2	UP advanced starter of COCOR siding cabin cum UP Distant signal No. 9 of JGP.	DN Advanced starter signal no. 42 of JGP on VSP L-2.
CCJS Cabin-SCMN Line-1	From DN Advanced starter signal no. S-16 of CONCOR siding cabin of VSP L-1.	DN Advanced starter signal no. S-73 of SCMN on VSP L-1.
CCJS Cabin-SCMN Line-2	From DN Advanced starter signal no. S-14 of CONCOR siding cabin of VSP L-2.	DN Advanced starter signal no. S-75 of SCMN on VSP L-2.

2.4 **GRADIENTS:**

a) From the centre of the station building towards JGP (UP Direction) for VSP Line:

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
0.000 F/CSB	3462 M	3462 M	1 in 150 Raising
3462 M	3725 M	263M	Level
3725 M	4195 M	470 M	1 in 500 Raising
4195 M	4625 M	430 M	Level
4625 M	4775 M	159 M	1 in 682 Raising

Chainage in Mtrs from CSB		Stretch	Gradient
From	**To**		
4775 M	4850 M	75 M	Level
4850 M	Into section	----	1 in 260 Falling

b) From Take off point to the centre of the station building of CONCOR:

Chainage in Mtrs from CSB		Stretch	Gradient
From	**To**		
0.000 F/Take off point	347 M (For Concor siding only)	347 M	Level
347 M	715 M (For Concor siding only)	368 M	1 in 500 Falling
715 M	858.458 (For Concor siding only)	143.458	1 in 150 Raising
858.458 M	959.088 M (For Concor siding only)	100.63 M	1 in 150 Raising
959.088 M	2313.064 M (Dead end from Take off point)	1353.976 M	1 in 400 Falling

c) From the centre of the station building towards SCMN (DN Direction):

Chainage in Mtrs from		Stretch	Gradient
From	**To**		
0.000 F/CSB	2300.000 M	2300 M	1 in 150 falling
2300.000 M	Into section	----	Level

2.5 **(A) <u>LAY OUT</u>:**

Sl no	Running lines	Electrified/Non Electrified
1	Line no-1 (VSP Line no.1)	Electrified
2	Line no-2 (VSP Line no.2)	Electrified
3	Line No..3	Electrified

(B) <u>PLATFORMS</u>:

(i) One Ware house on line no 4A (DCT Line no.1) is provided with measurement of 630 M x 25 M.

(ii) One concrete pavement on line no- 1between Line no. 4A and 4B (DCT Line no.2) is provided with measurement of 600MX30M.

(iii) One concrete pavement is provided with measurement of 700M X 45M in CONCOR yard.

I NON RUNNING LINES AND THEIR CAPACITY:

(i)BRAKEVAN SIDING:

One Brake van Siding takes off from line no.3 (Electrified) from both ends towards take off point measuring 75 M (SB-SB). The entrance single end points are operated individually by arc lever provided at site. Hand plunger lock is fitted at the entrance point unlocked by key 'Q' released from EKT provided in Brake van siding location through control no. 57 from VDU. 4 detection analog axle counter named as 55XT is provided for counting of axles from and to brake van siding.

(ii)DCT LINES:

DCT Line no.1 and Line no.2 takes off from Line no.3 (Electrified) from one end only near L-3 routing starter signal no. S/C/SH-12. The DCT line no.1 & 2 are operated by hand point and terminated in to dead end each. The DCT Line no. 1 named as Line no. 4A is measuring 690M CAL (DE-SB) and DCT Line no.2 named as Line no. 4B is measuring 690M CAL (DE- SB). The entrance single end point is operated by arc lever provided at site. Hand plunger lock is fitted at the entrance point unlocked by key 'P' released from EKT provided in Brake van siding location through control no. 55 from VDU. 4 detection analog axle counter named as 55XT is provided for counting of axles from and to DCT lines. The Loco pilot has to stop at the boards wherever provided named as "STOP TILL PILOTED" for shunting purpose.

(iii) **PFT LINES:** PFT lines takes off from Chainage 989.088M towards JGPM end. All the points in PFT loading lines are operated by hand operated points at site. PFT – L/1 CAL is 760M(SB to SB). PFT L/2 CAL is 760 M(SB-SB). SH-11 is provided for shunting purpose.

(iii)SICK LINES:
Two sick lines are provided measuring CALs of 227M and 200M and are terminated in to dead end individually. These two sick lines re operated by hand points provided at site.

(iv)SHUNTING NECK:

One Shunting Neck is provided measuring 65M long and is operated by hand point provided at site.

2.5.1 **RUNNING LINES, & HOLDING CAPACITY IN CSL:**

L/No 1	VSP Line no.1	900 M	Electrified	From Starter to Starter.
L/No 2	VSP Line no.2	NIL	Electrified	NIL
L/No 3	Line no.3	750 M	Electrified	From Starter to Starter.

2.5.2 **NON RUNNING LINES OF CONCOR INSIDE YARD AND THEIR CAPACITY IN CAL**:

Line No	Description	CAL	Electrified / Non Electrified	Measurement
1	HOLDING LINES	710 M	Electrified	From SB to SB.
2	HOLDING LINES	710 M	Electrified	From SB to SB.
3	HOLDING LINES	816 M	Electrified	From SB to SB.
3A	**Future Line**	**749.033**	**Top Wired**	From FM to FM
4	DCT Line no.1(4A)	690 M	Top wired	From DE to SB.
5	DCT Line no.2(4B)	680 M	Top wired	From DE to SB.
6	PFT LINES	760 M	Top wired	From SB to SB.
7	PFT LINES	760 M	Top wired	From SB to SB.
8	SICK LINE	227 M	Top wired	From FM to DE
9	SICK LINE	200 M	Top wired	From FM to DE
10	SHUNTING NECK	65 M	Top wired	---

2.5.3 **ANY SPECIAL FEATURES IN THE LAYOUT:**

Inter slotting arrangement is provided between CONCOR siding cabin and JGP on VSP L-1 on reception and dispatch signals.

2.6 **LEVEL CROSSINGS**:

NIL

3.0 SYSTEM AND MEANS OF WORKING:-

i) System of working: Absolute block system:

Trains are worked under Absolute block system in accordance with GR 7.01(1) (a), 8.01(1) (a) & (c), 8.01(2) (b), 8.03(2) (a), (b), (c) (ii), 14.01 to 14.07, 14.08(a), 14.09 to 14.13 and BWM chapter-V.

ii) Block instruments:

Single line block instruments are provided for the block section CONCOR siding cabin- SCMN (VSP L-1), CONCOR siding cabin-SCMN (VSP L-2) and CONCOR siding cabin-JGP (VSP L-2) vide GR 14.01 (a) and the 'OFF' aspect of the last stop signal is the authority for the Loco pilot to enter into the block section vide GR 14.08 (b) (iv).

iii) Co-operative/Non Co-operative: co operative.

iv) Provision of block telephone: Telephone attached to block instrument connecting the adjacent block stations concerned.

v) **Custody of keys of block instrument:** Block instrument is provided with double locking. One key will be with SM and other key will be with S&T maintainer.

3.1:- CUSTODY OF RELAY ROOM KEY/RELAY HUBS/GOOMTIES/GATE GOOMTIES/CABIN HOUSING ETC. AND PROCEDURE FOR ITS HANDING OVER AND TAKING OVER BETWEEN STATION MASTER AND S&T MAINTENANCE STAFF:

Custody of Relay room key/relay hubs/goomties/Gate goomties/cabin housing 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 and JPO issued by AM/Traffic & AM/Signal vide No. 2021/Sig/21/Safety Performance dated 10.06.2023.

Relay room/ relay hubs/goomties/Gate goomties/cabin housing are 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/ relay hubs/ goomties/ Gate goomties/cabin housing 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 and in case of relay hubs/goomties/Gate goomties/cabin housing in the register meant for this purpose.

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING:

4.1.0 **a)** Standard of Interlocking: This Station is provided with Standard-II® 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).

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

d) Method of operation: Central VDU is provided in the Station Master's office to electrically control all signals and points.

e) Provision of axle counter/Track circuits on running lines:

Track circuits are provided in the yard as 52T, L1T2, L1T1, L3AXT, 8AT, 8T, 53AT, 53BT, 51AT, 51BT, 14AT, 16AT, 3T, 1T, 1AT, 3AT and L3XT, 55XT. 39/4AXT, L1T1XT, and 8XT. Continuous track circuiting is provided on VSP Line no.1 between JGP-CONCOR CABIN. Axle counters are provided for sections CONCOR cabin-SCMN of VSP L-1, CONCOR siding-SCMN of VSP L-2 and CONCOR siding cabin-JGP of VSP L-2 for last vehicle verification.

Block section indications for the above track circuits/ Axle counters are available on VDU at SM's office and Block section clear/occupied indications in reset box is provided in SM's office. When a signal is cleared the route indication 'Yellow' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

f) Calling on signals: Calling-on signals are provided below Home signals as per GR.3.13 (1) (b), (2) (3) (4) & (6) (b). And Calling on Signals are provided below Starter No. S-10, and S-12.

g) **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. CH1 control points 51A/B; CH2 control points 52A/B; CH3 Control Points 53A/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 all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle can be released by clicking common 'TRANS' icon and concerned Crank handle control icon simultaneously. When the keys are taken out no signal can be taken 'OFF' over the particular route on the points nominated by the crank handle.

This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points. The failure of motor operated points must be ensured by physical checking that there is no obstruction. SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency Crank handle register shall be maintained by the SM on duty at the station as per chapter no.11 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.

4.1.1 **TAKING OFF CALLING-ON SIGNAL:**

Miniature color light Calling-on signal is provided below the Home signals and starter no. S-12 in terms of GR.3.13 (6) (b). A Calling-on signal shows no light in the 'ON' position and Yellow light when taken "OFF". A calling-on signal, will be taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' due to failure or any other reason or for admission of train on blocked line.

Before taking 'OFF' Calling on signal during failure of track circuit the route and clearance of the track over which the train will be admitted must be checked physically by SM on duty.

(The detailed procedure is given in Appendix-B)

4.1.2 **MOTOR OPERATED POINTS:**

All running line points in the yard are operated with electrical point machines.

4.1.3 **EMERGENCY/CRANKHANDLE KEYS AND THEIR CUSTODY:**

One crank handle is kept in the custody of SM on duty for operation of points in case of emergency. The key of the crank handle location box is kept in the custody of SM on duty for extraction of key from the RKT at both ends of the yard provided in the concerned location box painted yellow and black diagonal strips. Telephone communication is provided in the crank handle location box.

4.1.4 **INDICATIONS OF POINTS/SIGNALS/TRACK CIRCUITS/AXLE COUNTERS:**

All point, signal indications in the yard will be displayed in the mimic diagram of VDU as per site. Normally no track circuit clear indications are displayed in the mimic diagram except occupancy of the track circuit. Axle counter clear or occupied indications are displayed in the mimic diagram.

4.1.5 **DESCRIPTION VISUAL DISPLAY UNIT:**

(a) The PC-based (**operator VDU**) for the operation of Signals, Points, L.C Gates, 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 consists of CPU with a color monitor, keyboard and pointing device (mouse).

Through communication, the exchange of control and indication messages takes place with operator VDU. The Software is installed to display the Station Yard Mimic Panel diagram on the operator VDU and it allows access to all functions by selecting menus with a right 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.

(b)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. Before doing the emergency operation, SM on duty shall right click on the Emergency point operation in the menu appeared and shall provide password for the same. Then point operation can be done to either normal or reverse as per requirement.

(c)CRANK HANDLE & SIDING CONTROL OPERATION:

To Transmit or Release control of the Crank Handle, right click on the concerned Crank handle / Siding 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 **Transmit control** 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. 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 **Release control** in the menu appeared. A Crank handle locked indication will appear, when the particular point is locked through respective possible signal route(s).

4.1.6 **BLOCK SECTION:**

In case the axle counter does not show clear indication in the block section on complete arrival of the train/vehicle, concerned block section will be suspended by exchanging private numbers by both end SMs.
The procedure to be followed for re-setting by both of sending end and receiving end individually is as follows:-

a) On being advised by SM of CONCOR siding cabin, SM of JGP on VSP L-2/ SCMN on VSP L-1/ SCMN on VSP L-2 inserts the key in the Reset Box, turns right and presses both the key and the Push Button (Red) simultaneously with the SM of CONCOR siding cabin. The Counter on the Reset Box at CONCOR siding cabin and JGP on VSP L-2/ SCMN on VSP L-1/ SCMN on VSP L-2 registers the next higher number and after five seconds miniature green Preparatory Reset indication appears on the Reset Box both at CONCOR siding cabin and JGP on VSP L-2/ SCMN on VSP L-1/ SCMN on VSP L-2. The step by step procedure shall be followed as given in “b” to “i”.

b) SM of CONCOR siding cabin and JGP on VSP L-2/ SCMN on VSP L-1/ SCMN on VSP L-2 shall then Insert SM’s LV reset key, and turn right.

c) Press LV reset button provided on the panel.

d) Release SM’s LV reset key and reset button.

e) Turn left the SM’s LV reset key and remove it.

f) The system obtains preparatory reset state and preparatory reset indication (Green) glows on the panel. The counter reading increases by one

g) count after a gap of 5 seconds approximately.

h) The counter reading should be recorded.

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

j) 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.

k) If the axle counters functioning properly now, then Block Section cleared indication 'G' will appear on the panel and the concerned Block working will be normalized.

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

4.1.7 **SHUNT SIGNALS:**

Shunt signals Sh-10, SH-SH-12 A/B, SH-5 A/B, SH-11 are provided for shunting purpose.

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

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 (A) POWER SUPPLY:

Normal: AT Supply-230v, 50Hz

Stand by: - 1st standby power supply: Andhra Pradesh State Electricity Board Supply.
2nd stand by power supply: DG set.

(i) A changeover switch is provided in the Station Master's Office with the three power supplies viz., AT, Local and DG for changing the switch to the required supply position. A luminous indicator above the circuit breaker for each supply indicates the availability of the supply.

(ii) For IPS system that provides to EI, auto-change over has been provided.
(iii)There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

(B)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:

(a) Telephones attached to single line Token less Block Instruments connected to adjacent stations on either side.

(b) Telephone communication is provided between SMs of SCMN and JGP.

(c) The station is connected to VSKP-DVD complex control circuit.

(d) The station is connected to traction power control circuit.

(e) Telephone communication is provided between Station Master on duty to Up Crank Handle location.

(f) Telephone communication is provided between Station Master on duty, to Brake Van siding location.

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

(h) Auto telephone is provided.

5.1 FAILURE OF COMMUNICATION: -

(a) In the event of total failure of communications between the adjacent block stations SR 6.02.04 shall be observed for single line section
(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**

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.

6.1.1.1 DUTIES TO BE PERFORMED BY THE STAFF AT CONCOR SIDING CABIN:

(a)**SS/SM/VDU:**

He is responsible for trains passing during his shift as per OM 2015 para No.2.02.

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.

(c)<u>TRAFFIC POINTSMAN/TOKEN PORTERS:</u>

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

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.

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 forVSP-L/1 and UP and DN adv.starters for VSP-L/2.
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:

Any staff before taking of independent charge of duties connected to train working or any staff who is away from his duty for the period of 15 days or more shall sign in the Assurance Register which is token of having understood the contents.

However, in the event of any corrections or modifications in the SWR is involved, the assurance of all the staff who even is entrusted the work of train passing duty shall be obtained afresh in the assurance register by the in-charge of the station before they are allowed to work vide SR 5.01.02.

6.2 CONDITIONS FOR GRANTING LINE CLEAR:

(A) For section CONCOR SIDING CABIN-JAGGAYYAPALEM ON VSP LINE NO.1:

(i) The conditions laid down in GR 8.03 (2) (a) (b) (c) (ii) shall be complied with SM on duty before line is considered clear and line clear is granted for VSP line No.1.

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

(a) L-3 AXT should be clear.

(b) Whole of the last train passed over the station has arrived completely.

(c) DN Home signal /calling-on signal No. 4/A-B and/or C-4/A-B is put back to 'ON' position.

(c) Line is clear up to SH-11.

(d) Taking off signal no. 4A/B before giving slot no. 2 to JGP.

(B) For section CONCOR SIDING CABIN-JAGGAYYAPALEM ON VSP LINE NO.2:

(i)The conditions laid in GR 8.03(2) (a) (b) (c) (ii) shall be complied with the SM on duty before line is considered clear and line clear is granted for VSP line No.2.

(ii)Line shall not be considered clear and line clear shall not be granted to a DN train unless:
(a) Whole of the last preceding DN train has arrived completely.
(b) DN Home signal /calling-on signal No. S-8 and/or C-8 is put back to 'ON' position.

(c) Line is clear up to UP advanced starter signal cum UP Distant signal of JGP no.9.

(C) For section CONCOR SIDING CABIN-SIMHACHALAM ON VSP LINE NO.1:

(i) The conditions laid down in GR 8.03 (2) (a) (b) (c) (ii) shall be complied with SM on duty before line is considered clear and line clear is granted for VSP line No.1.

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

(a) Whole of the last train passed over the station has arrived completely.

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

(c) Line is clear up to DN advanced starter signal no. 16.

(C) <u>For section CONCOR SIDING CABIN-SIMHACHALAM ON VSP LINE NO.2</u>:

(i) The conditions laid down in GR 8.03 (2) (a) (b) (c) (ii) shall be complied with SM on duty before line is considered clear and line clear is granted for VSP line No.2.

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

(a) Whole of the last train passed over the station has arrived completely.

(b) UP Home signal /calling-on signal No. 3/A-B-C and/or C-3/A-B-C is put back to 'ON' position.

(c) Line is clear up to DN advanced starter signal no. 14.

6.2.1(a) <u>ANY SPECIAL CONDITIONS TO BE OBSERVED WHILE RECEIVING OR DISPACTHING A TRAIN</u>:-

(a) During reception of DN trains on Line no.3, SM/Concor cabin should ensure that no opposite movement of trains is taking place towards Shunt signal no. 11.

(b) One of the loading lines should be kept clear at CONCOR siding cabin before granting line clear.

6.2.1(b) Working instructions for CONCOR Diesel loco at CCJS :- As far as Possible two lines should be kept vacant in the CONCOR Yard, Holding Lines, for incoming Rake and for movement of Loco. In the case of only one Line available in the Holding Yard, then the following procedure is to be adopted.

a) The incoming Rake shall be received in the clear line by pushing.
b) Then the CONCOR loco shall pull the outgoing loaded Rake towards JGPM end on Zero line and stand by clearing Fouling Mark/ Stop Board.
c) The Railway Loco of incoming rake shall be detached and kept towards SCMN end of CONCOR yard beyond the fouling mark, through the vacant line.
d) Then the CONCOR loco shall push the loaded rake on the vacant line in the Holding Yard and stand before the fouling mark by keeping sufficient place for Attachment of Railway loco towards SCMN end.
e) After detaching CONCOR loco, the Rly loco is to be attached and offer for GDR.
f) When SCR on duty is ordered for dispatch the outgoing rake with Railway Loco, the Rake shall be pushed to Zero' line by clearing signal No. 12.
g) Dispatch signal shall be taken off for outgoing rake towards SCMN.
h) On duty Guard shall supervise all Railway shunting movements and GDR check round the clock in Concor Yard either with Railway loco or CONCOR Loco.

Note: All shunting movements inside CONCOR siding along with Railway /CONCOR loco should Be done with Brake power continuity.

2. Whenever Placement/Drawn out of Railway works are completed, and CONCOR yard is Free from all Railway Operations, **the Yard should be handed over to CONCOR Officials for their internal movements.** The following procedure should be adopted.

a) After completion of Railway operations Point No. 53/A to be kept in Normal position and 55 & 57 plunger key handed over to CONCOR Officials. This key will in release condition till Railway Operations starts.
b) This plunger key taken back from CONCOR Officials when Railway Operations are expected in the yard.
c) Before reception/placement of the rakes, it should be personally ensured that the Concerned line is clear from all obstructions.
d) Route settings and shunting movements shall be supervised by the CONCOR Officials their internal movements.

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE:

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

Safety Point Alarm:-

A safety point alarm is provided on the Table of the Duty SM with different indications.

1) On complete arrival of a train at the station, the SM has to set the points against the occupied line.
2) In case the SM forgets to alter the points, after the time lag of two 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 '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.
5) In case the SM fails to set the required points against the occupied line, a fault message will be triggered, SMS will be sent to the concerned Station Mobile and all concerned staff. Action will be taken against.

If all the lines of a station happen to be blocked, when line clear has been granted to a train, **then the Safety Point Alarm will not work.** Then, 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 chances of causalities are minimized. In case of all the lines are occupied by passenger train, points should be set for a loop line to negotiate which the speed of incoming train would be reduced which in turn, would minimize the consequences / causalities vide SR 3.51.06(b)

To Block / Unblock a particular line, displays 'Block' 'Unblock' option on the menu. Select line block option. After selecting the line block option, that particular line will be blocked and Red color indication will be displayed on the line.

6.2.1.2 RECEPTION OF TRAINS:

I.FOR VSP LINE NO.1: (UP trains):

(a)FOR THROUGH TRAINS from SCMN TO JGP:

(i)While granting LC for through trains to SCMN , SM/Concor can grant Line clear to Concor bound trains from JGP.

(ii) While granting LC for through trains to SCMN, SM/ Concor cannot give LC (slot) for through trains from JGP on VSP-1 but can give LC to through trains from SCMN /JGP on VSP-2.

(b)FOR CONCOR BOUND TRAINS from SCMN to Concor:

(i)While granting LC for CONCOR bound trains from SCMN to CNCOR, SM/Concor can give LC(slot) to JGP for through trains /Concor bound trains but take off Signal no. 4 before granting slot and Two lines in the siding to be kept free.

2 **FOR VSP LINE NO.1: (DN trains):**

(a)FOR THROUGH TRAINS TO SCM from JGP:

(i)While granting LC (slot) for through trains to SCMN, SM/Concor can grant LC to CONCOR bound trains from SCMN but take off Signal no. 4 before granting slot.

(ii) While granting LC (slot)to JGP for through trains, SM/Concor cannot grant LC for through trains from SCMN on VSP- L/1 but can give LC for through trains on VSP-2

(b)FOR CONCOR BOUND TRAINS To SCMN from JGP:

(i)While granting LC to JGP for CONCOR bound trains, SM/ Concor can give LC to SCMN for through trains.

(ii) While granting LC to JGP for CONCOR bound trains, LC can be given for CONCOR bound trains and take off Signal no. 4 before granting slot and also two lines for placement of two rakes are to be kept clear.

II.FOR VSP LINE NO.2 (UP trains)

(a)FOR THROUGH TRAINS TO JGP from SCMN:

(i)While granting LC for through trains(UP trains) to SCMN towards JGP, SM /Concor can give LC for through trains (DN trains) to JGP on L/2 provided through trains from SCMN to be first admitted on L/1 or L/3 .

(ii) While granting LC for through trains(UP trains) to SCMN towards JGP, SM /Concor can give LC for through trains /Concor trains (DN trains) to JGP on L/1.

(a)FOR CONCOR BOUND TRAINS TO JGP from SCMN:

(i)While granting LC for Concor bound trains (UP trains) to SCMN towards JGP, SM /Concor can give LC for through trains (DN trains) to JGP on L/2 or L/1. Provided Concor bound train from SCMN to be admitted first when granting LC to JGP for L/2..

(ii) While granting LC for Concor bound (UP trains) to SCMN towards JGP, SM /Concor can give LC for through trains /Concor bound trains (DN trains) to JGP on L/1 provided the first admitted Concor bound train should be backed to the siding only then the concor bound train from other end shall be received

2 **FOR VSP LINE NO.2: (DN trains):**

(a)FOR THROUGH TRAINS TO SCMN from JGP:

(i)While granting LC for through trains to SCMN from JGP, SM/Concor can grant LC to CONCOR bound trains from SCMN on L/1 or L.2 or Through trains on L/1 provided Concor bound train from SCMN to be admitted first and also SM/Concor can grant LC to CONCOR bound trains from JGP on L/1.

ii) Two lines in the siding to be kept free while granting LC for Concor bound trains from both ends

III. RECEPTIONOF TRAINS FROM SCMN TO PFT SIDING:

1. For receiving trains from SCMN to PFT siding, SM/CONCOR shall grant LC to SCMN after ensuring that one of the lines in PFT siding is free
2. He shall arrange to take off concerned reception signals and admit the train into L-3
3. The SM/Concor shall arrange to set the points to PFT siding which is free from obstruction and clamp & padlock and advise the guard to back the train to PFT siding for placement
4. After placing the rake in the PFT siding, engine is detached from formation and taken to the brake van siding via engine escape line and brake van is kept on brake van siding

IV. RECEPTION OF TRAINS FROM SCMN TO DCT:

1. For receiving trains from SCMN to DCT, SM/SCMN shall take line clear from SM/CONCOR cabin, who shall arrange to confirm that one of the lines of DCT siding is free from obstruction and suspend any shunting operations in the siding and then grant line clear to SCMN.
2. SM/CONCOR shall set the route and take off reception signals for admission of train on L-3.
3. Thereafter the train is backed into one of the holding lines. Engine is detached and sent via engine escape line to pick up the brake van Then the engine is reversed via engine escape line and attached to the rake towards SCMN end and then the entire rake is pushed to DCT siding after ensuring the proper setting of the route. . Then the engine shall pick up the brake van and kept in brake van siding. Then the engine is detached as per SCR orders for any further movement.

V.RECEPTION OF TRAINS FROM JGP TO PFT SIDING:

1. For receiving trains from JGP to PFT siding SM/CONCOR shall grant line clear (slot) to JGP after ensuring that one of the lines in PFT siding is free from obstruction.
2. After receiving the rake on L/3. By taking off reception signals, the rake is pushed to holding lines and then the engine is reversed onto the brake van siding to pick up the brake van detach brake van on SCMN end and then the rake is backed to PFT siding for placement.
3. After placing the rake, the engine is detached for brake van marshalling and other movements.

V.RECEPTION OF TRAINS FROM JGP TO DCT SIDING:

1. For receiving trains from JGP to DCT siding SM/CONCOR shall grant line clear (slot) to JGP after ensuring that one of the lines in DCT siding is free from obstruction.
2. After receiving the rake on L/3. By taking off reception signals, the rake is pushed to holding lines and then the engine is reversed onto the brake van siding to pick up the brake van and then the rake is pushed to DCT siding for placement.
3. Hand plunger locks is provided for DCT siding controlled by 55 through EKT operation. SM will transmit control 55. The EKT can be extracted in brake van siding by pressing push button provided at site. The key P thus extracted from site to be inserted in the hand point and turned for unlocking the point . Then the hand point can be reversed for receiving the train into DCT line.
4. After placing the rake, the engine is detached for brake van marshalling and other movements.

6.2.1.3 DISPATCH OF TRAINS:

I.DISPATCH OF TRAINS TO SCMN from PFT siding:

1.After the rake is ready for dispatch, engine is to be attached towards JGP end and drawn ahead towards JGP and then backed to one of the R&D line. The engine is to returned via engine escape line and attached towards SCMN end and entire formation is pushed towards JGP on L-3 after setting the route by setting of points clamping & and pad locking.
2.SM/CONCOR shall set the route and take off signalno.12 for dispatch of train towards SCMN.

NOTE:
The rakes without weighment at CONCOR siding shall be weighed at SCMN invariably.

II.DISPATCH OF RAKE FROM DCT TO SCMN:

1. Once the rake is ready for dispatch, the SM/CONCOR shall take line clear from SM/SCMN and set the route from DCT siding to dispatch .

Hand plunger locks is provided for DCT siding controlled by 55 through EKT operation. SM will transmit control 55. The EKT can be extracted in brake van siding by pressing push button provided at site. The key P thus extracted from site to be inserted in the hand point and turned for unlocking the point . Then the hand point can be reversed for dispatch.

2. After getting line clear from SM/SCMN SM/CONCOR shall take off signalno.12 to dispatch the rake. If the rake is not weighed at JGP, then weighment should be done at SCMN invariably.

III.DISPATCH OF RAKE FROM PFT TO JGPM:

1. Once the rake is ready for dispatch, the SM/CONCOR shall take line clear from SM/SCMN and set the route from PFTsiding to dispatch by taking off Shunt signal no.11.
2. After getting line clear(slot) from SM/JGPM, SM/CONCOR shall take off signalno.13 to dispatch the rake. **Weighment of the rake should be done at CONCOR only.**

IV.DISPATCH OF RAKE FROM PFT TO SCMN:

1. Once the rake is ready for dispatch, the SM/CONCOR shall attach the engine on SCMN end and then push the rake to L/3.
2. He shall take line clear from SM/SCMN and set the route from PFT Siding to dispatch by taking off Starter signal no.12..
3. If the rake is not weighed at Conocr, then weighment should be done at SCMN invariably.

6.2.1.4 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 as per GR 5.09 (2)(C)(3)(4)(5) and SR 5.09.01.

6.2.1.5 RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

Not Applicable

6.2.1.6 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE.

Not Applicable

6.2.1.7 DESPATCH OF TRAIN FROM LINE PROVIDED WITH COMMON STARTER SIGNAL: NIL.

6.2.1.8 ANY SPECIAL CONDITIONS:

(a) SPECIAL INSTRUCTIONS:

(i) DN starter signal routes S (10, 12) A are released by DN Advanced starter signal no. 14 on VSP Line no.1 and S (10,12) B rotes are released by DN Advanced starter signal no. S-16 on VSP Line no.2.
(ii) UP Home signal route 3C is released by UP Advanced starter signal no. 9 on VSP Line no.2.
(iv) DN Home signal S-8 is released by DN Advanced starter signal no. S-14 on VSP Line no.2.
(v) (ii) During failure of axle counter L3AXT & 55XT, zone verification buttons provided at site to be pressed physically after ensuring clearance of the axle counter zone before resetting done by SM.
(vi) (iii)Prior to every slot transmission between JGP and CONCOR siding cabin for every reception & dispatch of trains on VSP line no.1, the SM intending to send train has to send a "Request slot" to the receiving SM and it should be supported with private number exchange between the concerned SMs.

(b) SPECIAL RESTRICTIONS:

(i) During reception of DN train on Line no.3, SM/CONCOR cabin should ensure that no opposite movement of trains is taking place towards shunt signal no.11.
(ii) Shunting in face of approaching train is prohibited.

6.3 CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS:-

(i)Conditions for taking off approach signals are governed by GR 3.40(1) (b), 3.40(2) (b), 3.40(3) (b).
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.

1 ADEQUATE DISTANCE: (SIGNAL OVERLAP)

To take off the Home signals for admission of a train, the adequate distance (overlap) as mentioned below shall be kept clear. [Refer GR.3.40 (3) (b) and SR thereto]

CLEARANCE OF ADEQUATE DISTANCE (SIGNAL OVERLAP)

FOR UP TRAINS		
Line No.	**From**	**To**
1	UP starter signal no. 15	UP home signal no. 39 of JGP on VSP L-1 when point no.52 is normal.
3	UP starter Signal No.13	UP home signal no. 39 of JGP on VSP L-1 when point no.52 is reverse.

FOR DOWN TRAINS		
Sl No.	**From**	**To**
2.	DN starter Signal No.10 on VSP L-1	DN advanced starter signal No.14 on VSP L-2 or DN advanced starter signal No.16 on VSP L-1.
3	DN starter Signal No.12 on L-3.	DN advanced starter signal No.14 on VSP L-2. Or DN advanced starter signal No.16 on VSP L-1 when point no 53 is reverse or Up to end of 53 AT for L/3 when point no 53 is normal.
For taking off DN home Signal No.8 on VSP L-2, since home signal is released by Adv starter no. 14 , line clear to be obtained from SCMN		

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

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

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

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

1.	Reception of a Down train from JGPM on Line No.3	AND	Dispatch of another Down train from Line No.1 to SCMN

6.5 COMPLETE ARRIVAL OF TRAINS:

The block section between CONCOR Siding Cabin - Jaggayyapalem on VSP line no.2, CONCOR Siding Cabin-SCMN on VSP Line Nos 1 & 2 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 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 Axle counter the SM on duty shall obtain complete arrival certificate from the guard of the train in the complete arrival Register **(T/1410)** maintained at the station for stopping train.

For through passing train the SM on duty shall satisfy himself the complete arrival of the train by verification of the Last Vehicle Indicator vide SR 4.16.05 that the train arrived complete. In case a train passes incomplete, action shall be taken as per SR.4.17.02, 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.

6.6 DISPATCH OF TRAINS:

To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the 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)]

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:

a. TRACK CIRCUITS:

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

b. AXLE COUNTER:

If the axle counter fails between the block sections and on L-3AXT, 55XT resetting procedure will be adopted as per Para 8 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 rectification. Resetting procedure is given at Appendix-'B'.

c. 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 6.02.06)

d. 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.

e. RECEPTION OF A TRAIN ON NON-SIGNALLED LINE:

NIL

f. DEFECTIVE SIGNALS:

Whenever signals become defective, the procedure laid down in GR & SR shall be followed. [Refer GR 3.68 to 3.71, 3.80 and SR 3.68.01©] 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.

g. DEFECTIVE INTERLOCKING:

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].

h. **DEFECTIVE/DAMAGED POINTS:**

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 2.19. 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 2.19 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 immediate rectification.

i. PROCEDURE FOR EMERGENCY OPERATION OF POINTS BY CRANK HANDLE:-

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. Crank Handle can be released by operating common 'TRANS' icon and concerned Crank handle control icon simultaneously. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted at both ends of the yard.

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

track circuits by observing the track indications of the track on either side of the cross over by positively checking the entrance and exit track circuits are showing occupancy and clearance in accordance with the train movement.

i. **PROCEDURE FOR EMERGENCY OPERATION OF POINTS WITH POINT ZONE TRACK CIRCUIT/AXLE COUNTER FAILURE AND EMERGENCY ROUTE RELEASE:**

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

6.9 PROVISIONSFOR WORKING OF TROLLIES/ MOTOR TROLLIES/MATERIAL LORRIES ETC":

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 trolleys shall run under block protection only vide SR 15.25.09(e).

d. Shunting key of token less block instrument at dispatch station as well as receiving station of the motor/push trolley shall be taken out and kept in the personal custody of SM on duty in addition "trolley on line" board shall be hung up on the handle of the block instrument. Special instructions contained in the circular No.19 of 6.4.88 should be followed.

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. 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.

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 in para 5.4ofAppendix-B.

8.0 SHUNTING:

8.1 GENERAL PRECAUTIONS:

Shunting will be carried out at the station in accordance with General Rule and relevant Subsidiary Rules and Block working Manual [Refer GR 3.46, 3.52 to 3.56, 5.13,5.14,5.16 to 5.23, 8.05,8.06, 8.14 and 8.15] with relevant SRs and OM 7.01, 7.07, 7.08, 5.1(2) (B) shall be followed.

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

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:

Shunting in the face of an approaching train is strictly prohibited.

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 is to be attached towards falling gradient while shunting on L-3 & L-1.

8.4 SHUNTING ON SINGLE LINE:

i) Within station section: Governed by GR 8.10.

ii) Beyond station section: Governed by GR 8.12.

iii) Beyond opposite first stop signal: Unless the line is blocked back, the line outside the first stop signal shall not be obstructed vide GR 8.13.

iv)During failure of Block instrument: Block back messages shall be exchanged between Station master 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 :

All points in the siding are operated by hand points. SH-12 is provided for shunting in sick line sidings and in shunting neck in siding with Motor operated point no. 52 in normal position. SH-11 is proved for shunting towards take off point.

9.0 ABNORMAL CONDITION:-

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

(i) During partial interruption of communication between the adjacent block stations, SR 6.02.06 shall be observed.

(ii) In the event of occupation of block section due to accident or obstruction the authority for the train to work up to obstruction as and when required is T/A 602 & SR 6.02.05 shall be observed.

(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 & 14.14.

(vi) Failure of MTRC: Not applicable.

a) i. PROCEDURE FOR EMERGENCY OPERATION OF POINTS BY CRANK HANDLE:-

To Transmit or Release control of the Crank Handle, right click on the concerned Crank handle / Siding control icon provided on the operator VDU.

For Transmitting the Crank Handle KEY to the field personnel, right click on the Crank Handle and select the **Transmit control** 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.

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 **Release control** in the menu appeared.

A Crank handle locked indication will appear, when the particular point is locked through respective possible signal route(s).

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

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.

Before doing the emergency operation, SM on duty shall right click on the Emergency point operation in the menu appeared and shall provide password for the same. Then point operation can be done to either normal or reverse as per requirement. To cancel a signal route when the route is set and the signal is taken-off, right click on the signal and select the signal cancellation in the menu. The signal will immediately go to ON aspect. Again right click the signal and select the route cancellation in the menu. The concerned signal route locked indication will start flashing for 120 sec, after the completion of 120 sec the locked route will be released and counter for the route release on VDU will change to next higher digit number.

b) 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.

c) 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.

9.1.1.1 **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:

Not applicable.

9.3 DISPATCH OF TRAINS UNDER AUTHORITY TO PROCEED WITHOUT LINECLEAR 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 Signal lights of Down advanced Starter signal No.14 on VSP line no.2 and DN advanced starter signal No.16 on VSP Line No.1 towards SCMN, are earmarked to serve as Visibility Test Object during day and night vide GR 3.61.01 (a) & (b).

11. ESSENTIAL EQUIPMENT AT THE STATION:

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	First Aid Box	**1**
9	Stretcher	**1**
10	Blanket	**1**
11	Iron skids	**6**

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.

APPENDIX-'A'

APPENDIX 'A' TO STATION WORKING RULES OF CONCOR SIDING CABIN

Level Crossing Gates Not available at this Station

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APPENDIX-'B'

APPENDIX 'B' TO STATION WORKING RULES OF CONCOR SIDING CABIN

(Detail description of Signaling 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:** CONCOR SIDING CABIN is a Special Class station provided with Standard-II (R) Interlocking. The station is provided with Route setting type Electronic Interlocking between points, signals, track circuits and other signaling gears. The station is equipped with Multiple Aspect Color 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) is provided for operation of Signals, points, Crank handles and controls etc. A mimic yard diagram based on **SI plan No. SI/23138 Al-t-B** will be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the station yard mimic diagram of VDU will be dynamically updated.

3. **SYSTEM OVERVIEW:**

The PC-based (**operator VDU**) for the operation of Signals, Points, L.C Gates, 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 consists of CPU with a color monitor, keyboard and pointing device (mouse). Through communication the exchange of control and indication messages takes place with operator VDU. The Software is installed to display the Station Yard Mimic Panel diagram on the operator VDU and it allows access to all functions by selecting menus with a right 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 with the operator to control 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 from the Mimic panel diagram. A Mimic panel diagram displayed on the operator VDU will be an exact replica of yard that suits SI plan.

3.1.1 **POINT DETAILS;**

Sl no	POINT	DESCRIPTION
1	51A/B	Cross over point between VSP L-1 & VSP L-2 towards SCMN end.
2	52 A/B	Cross-over point between VSP L-1 & L-3 towards JGP end.
3	53A/B	Cross over point between VSP L-1 & L-3 towards SCMN end.
4	55	Control for operating key locked point towards DCT siding.
5	57	Control for operating key locked point towards PFT siding.

3.1.2 **SIGNAL DETAILS:**

SL NO	SIGNAL NO	DESCRIPTION
1	S/C-1 A/B	UP Home signal on VSP L-1 towards SCMN end.
2	SLOT-2	Granting slot to JGP for taking-off Home signal no. 40 of JGP.
3	S/C-3 A/B/C	UP Home signal on VSP L-2 towards SCMN end.
4	SC-4 A/B	DN Home signal on VSP L-1 towards JGP end.
5	SH-5 A/B	Shunt signal on VSP L-1 towards SCMN end.
6	S/C8	DN Home signal on VSP L-2 towards JGP end.
7	S-9	UP advanced starter signal cum UP distant signal of JGP
8	S/C/SH-10 A/B	DN Starter signal on VSP L-1
9	SH-11	Shunt signal for shunting on L-3 towards JGP end.
10	S/C/SH-12 A/B	DN Starter signal on VSP L-3
11	S-13	UP starter signal on L-3 towards JGP end.
12	S-14	DN advanced starter signal on VSP L-2 towards SCMN end.
13	S-15	UP starter signal on VSP L-1 towards JGP end.
14	S-16	DN advanced starter signal on VSP L-1 towards SCMN end.
15	Request slot	Button to be pressed for granting slot from JGP for taking off Starter signals S-13/S-15.

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

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 'IN'	Ensures operation of VDU by authorized person	Protected by pass word
2.	---	Emergency Route Release – UP & DN	Flashing indication appears when Emergency route release operation is initiated.	
3.	Emergency Point operation key	Yellow light when key is 'IN'	Ensures emergency point operation by authorized person	For each operation concerned counter shall register one count higher.
4.	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.
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 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.	

SN	ICONS	INDICATION	FUNCTIONS	REMARKS
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	When line block is selected the concerned berthing portion of track will appear as thick Red line.

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.

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 enables 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.

ELECTRONIC INTERLOCKING (E.I) SYSTEM INDICATIONS:

a) Vital Interlocking Coputer 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 changed 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 it will be in Active State and EI shall continue to function. On observing the fault, SM shall acknowledge the fault and immediately inform Signal Maintainer.

b) Link Status Indication:

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

When Channel – A or Channel – B link is healthy, corresponding yellow indication will be flashing continuously. When Channel – A or Channel – B link is faulty, corresponding red indication will be shown steady.

Channel –A Link Status is Healthy

Channel – A Link Status is Faulty

Channel – B Link Status is Healthy

Channel – B Link Status is Faulty

Buzzer and Acknowledgment:

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

acknowledged by the Operator.

When any of the 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 provide Indications. On observing any communication channel faulty indication, SM shall acknowledge the fault and immediately inform the Signal Maintainer.

c) <u>EI Equipment Critical Fault:</u>

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.

<u>Function Lock & Unlock Operation Details:</u>

Lock/Unlock Operation and Indication:

Lock Operation allows disabling of operation for the selected functions. The operations can be enabled again by unlocking the locked function operation.
Lock Indication:

Default Indication (When nothing is locked or no menu item is checked)

Lock Indication (When any one item is locked or menu item is checked)

Lock or Unlock Operation:

Right Click on this image, a pop- up menu is displayed this menu is called Button Lock/Unlock Menu. To Lock or Unlock the required button go to the required menu and click on it. This shall be explained in detail below.

Lock/Unlock Menu:

OPERATION
Main Signal
Shunt signal
Calling-on signal
Point
Route

- Click on this menu option to lock /unlock all the items in the menu.
- When a menu option is clicked, it will be checked i.e. a tick mark will be shown if it is previously unchecked or else it will be unchecked if it is previously checked.
- If a menu item is checked its main menu or parent menu will also be checked as shown below and color of Lock/Unlock image will be changed to yellow.

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.

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.

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.

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.

POINT INDICATIONS:

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

SIGNAL OPERATION:

To take-off a signal with 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 cancellation operations.

SETTING A ROUTE:

To set a route of a signal, track the mouse on the 'Route set' sub menu where will appear 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 will 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 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.

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.

CALLING ON SIGNAL OPERATION:

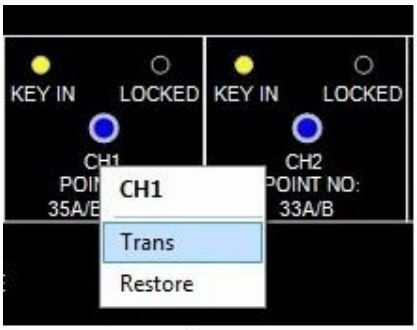
Calling on signal route set operation follows the same procedure as mentioned for the main signal. For calling on Signal, route is set after a train occupies the approach track circuit in immediate rear of the stop signal. The calling on Signal is cleared after a lapse of 60 Seconds provided other conditions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

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal, occupying the calling-on track circuit 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.

CRANK HANDLE CONTROL OPERATION:

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.

OVERLAP TIME RELEASE:

Separate indications 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:

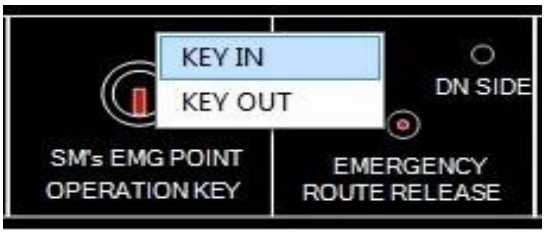
To cancel a signal route when the route is set and the signal in taken-off, click on the signal. After clicking by the right button on the mouse a pop-up menu will appear as shown in Para 4.7 above. Click on the Signal cancel menu (Main/ Calling on) of the concerned signal, the signal will immediately go to 'ON' aspect, after doing so click on the Emergency Route release menu a pop up menu will be displayed for conformation. By clicking on 'Yes' the route locked indication will starts flashing for 120 sec & the Emergency Route Release Indication (UP/DN as the case may be) will flash for the entire time interval. After the completion of 120 sec, the locked route will be released. 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 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 made the Emergency Point Operation Key is to be 'KEY IN'. To 'KEY IN' the Emergency Point Operation key right click on the SM's Emergency point operation key a pop-up menu will be appears as follows.



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

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

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

5.3 EMERGENCY CRANK HANDLE RELEASE OPERATION:

When a crank handle is locked due to route set earlier is not released or otherwise. To Transmit or Release control of the Crank Handle, SM on duty shall cancel the relevant signal first and then right 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) indication will start to flash for 120 seconds & 'KEY IN' remains steady. After a lapse of 120 seconds the 'KEY LOCKED' indication will vanish & 'KEY IN' indication will start to flash. After extracting the key from the RKT, the 'KEY IN' indication will disappear.

When the Manual point operation is over, after putting the 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.

5.4 **LINE BLOCK AND UNBLOCK (REMINDER COLLAR):**

When SM on duty requires demarcating a line as Blocked/free he should adopt the following procedure.

LINE BLOCK:

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.

LINE UNBLOCK:

To release the set the block 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 twin block sections between CONCOR SIDING CABIN-SIMHACHALAM NORTH on VSP Line no.1 & 2.

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 Digital Axle Counter, 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 LVCD section to reset the Axle Counter in case of failure of LVCD. Reset Box gives the status of the block section i.e. Clear (GREEN), occupied (RED), preparatory reset (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 OF DIGITAL AXLE COUNTER:

In case the axle counter does not show clear indication in the block section on complete arrival of the train/vehicle, concerned block section will be suspended by exchanging private numbers by both end SMs.
The procedure to be followed for re-setting by both of sending end and receiving end individually is as follows:-

a) On being advised by SM of CONCOR siding cabin, SM of JGP on VSP L-2/ SCMN on VSP L-1/ SCMN on VSP L-2 inserts the key in the Reset Box, turns right and presses both the key and the Push Button (Red) simultaneously with the SM of CONCOR siding cabin.

The Counter on the Reset Box at CONCOR siding cabin and JGP on VSP L-2/ SCMN on VSP L-1/ SCMN on VSP L-2 registers the next higher number and after five seconds miniature green Preparatory Reset indication appears on the Reset Box both at CONCOR siding cabin and JGP on VSP L-2/ SCMN on VSP L-1/ SCMN on VSP L-2. The step by step procedure shall be followed as given in "b" to "i".

b) SM of CONCOR siding cabin and JGP on VSP L-2/ SCMN on VSP L-1/ SCMN on VSP L-2 shall then Insert SM's LV reset key, and turn right.

c) Press LV reset button provided on the panel.

d) Release SM's LV reset key and reset button.

e) Turn left the SM's LV reset key and remove it.

f) The system obtains preparatory reset state and preparatory reset indication (Green) glows on the panel. The counter reading increases by one

g) count after a gap of 5 seconds approximately.

h) The counter reading should be recorded.

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

j) 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.

k) If the axle counters functioning properly now, then Block Section cleared indication 'G' will appear on the panel and the concerned Block working will be normalized.

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

6.2 RESETTING OF MSDAC (Multi-Section Digital Axle Counter):-

MSDACs are provided on the Line No.3 (L3XT) and point zone 55(55XT) for dual detection of vehicle. It is an electric device which when provided at two given points on the track proves by counting axles 'IN' and counting axles 'OUT' whether the axle counter controlled track section is clear or occupied.

It can be reset by using Reset Box and Line Verification Box after ensuring that no vehicle exists on the portion of the line which shows 'occupied'. The Reset Box of MSDAC, provided separately for the concerned Track Section at on Duty Station Master

1. Components of Reset Box.

i. Clear Indication: The Clear Indication by Green LED (Green Light) will appear only when the concerned Track Circuited Zone is clear of vehicle.

ii. Occupied Indication: This indication by Red LED (Red Light) will appear due to either any train occupying the concerned track circuited zone or the Axle Counter is faulty.
Reset Button & SM's Key : These two components of MSDAC Reset Box have to operated at a time when resetting is required, provided there is no train in the concerned track circuited zone.

iii. Counter: One Counter has been provided in the MSDAC Rest Box for registering the every resetting operation, by a next higher number.

iv. Line Verification Indication : This indication, by Yellow LED, appears only when the MSDAC fails & Resetting Button of Line Verification Box is pressed after verifying section manually.

v. Line Verification (L.V.) Box: Beside Reset Box in the RRI cabin, Line Verification Box is also provided separately for each MSDAC in the Location box situated beside the concerned track circuit. The Line verification box is consisting of switch with a key fixed inside. The switch gets actuated only when the key is inserted, pressed and turned.

2. Resetting of MSDAC:-

a. If the track section controlled by the aforesaid Axle Counter shows red indication in Reset Box, even after passage of one train clearing the axle counter (though the indication on Panel for existing Track Section shows clear indication), On duty SM shall reset the Axle Counter (after satisfying himself that the concern line is free from all obstructions & yellow indication for the concern Line Verification is available). He shall depute one authorized staff, who in turn also verify that the concerned line is clear of all obstructions and if found clear he will open the location box in which the L.V. box is provided and talk with SM/Cabin and operate the L.V. box by pressing and turning the key clockwise. By this operation of L.V. box a yellow indication will be appeared in the concerned reset box at the Cabin.

i) Insert SM s key, turn right and keep pressed.
ii) Press reset push Button.
iii) Release both SM s key and reset Button.
iv) Turn left and remove SM s key and keep in safe custody.
v) System enters clear state and both the 'Yellow' & 'Red' indication will be disappeared.
vi) The system becomes normal after passing of one train in the section.

The Counter, provided in the Reset Box will register a next higher number for recording the resetting. operation. The number so changed, shall be recorded in the axle Counter failure register & in the TSR book. After completion of resetting operation, location box is to be closed & locked and Key of Line Verification Box shall be kept under the personal custody of the on duty SM.

3. Procedure to be adopted during failure:

i) Track circuits of Concerned Track sections function properly, but automatic resetting of Axle Counter (MSDAC) by other train detection device (concerned track circuit) fails (Audible alarm, indicating one of the detection systems fails and Indication by red light in Rest Box will be made available, though Clear Indication of Concerned Track section will be appeared in SM's CCIP & Concerned Signal can be taken 'OFF').

On seeing this disparity, on duty SM shall acknowledged the alarm & reset the MSDAC after getting the Yellow Indication (Line Verification Indication) in the concerned Reset Box. After resetting, indication by green light will be made available in the Reset Box after passing of one train. If the MSDAC does not show clear indication in the concerned Reset Box even after passage of one train, on duty SM has to issue failure memo to on duty SIM/JE for the rectification of same.

ii) Axle Counter (MSDAC) of Concerned Track sections function properly, but existing Track Circuit fails :(Audible alarm, indicating one of the detection systems fails and Indication by red light in Track Indication Panel, placed near MSDAC Reset Box will be made available, though Clear Indication of Concerned Track section will be appeared in SM's CCIP & Concerned Signal can be taken 'OFF').

On seeing this disparity, on duty SM shall acknowledged the alarm & issue failure memo to on duty SIM/JE for the rectification of Track Circuit.

iii) Both Axle Counter (MSDAC) - automatic resetting of Axle Counter (MSDAC) by other train detection device (concerned track circuit) & existing Track Circuit of Concerned Track sections fails: (Track Section occupied indication in SM's CCIP & Indication by red light in Rest Box as well as in the Track Indication Panel will be available and Concerned Signal cannot be taken 'OFF'). On seeing this, on duty SM will issue failure memo to on duty SIM/JE for the rectification of concerned track circuit & simultaneously reset the axle counter (MSDAC) of concerned track sections, after getting the Yellow Indication (Line Verification Indication) in the concerned Reset Box. After resetting the MSDAC, first train has to be received for concerned track section on Calling-on signal as per GR/SR No. 3.45 and if Calling-on signal cannot be taken off, train shall be received as per GR & SR 3.69. If the MSDAC does not show clear indication in the concerned Reset Box even after passage of one train after resetting the MSDAC, on duty SM has to issue failure memo to on duty SIM/JE for the rectification of MSDAC also. During failure of both the devices, train shall be dealt on written authority at restricted speed.

Provision for generation/transmission of exception Report/alarm to Maintenance Team & Signal Control for attending the failure (with proper disconnection/reconnection memo) is also made available in the system.

6.2.2 RESETTING OPERATION FOR L1T1XT & 8XT DIGITAL AXLE COUNTERS:-

Digital axle counter L1T1XT & 8XT are provided after L1T2 and 8AT due to presence of Girder bridge VSP-8 to prove clearance/occupancy of the track. The occupation of the axle counter is indicated on the VDU by RED.

After passage of train, due to any failure of axle counter, the axle counter zone (L1T1XT & 8XT) shows occupation indication (RED) continuously on VDU, then SS/SM on duty shall initiate resetting procedure.

Before initiating resetting, on duty SM at CCJS station shall send an operating staff to in turn verify that the concerned axle counter zone is clear of all obstruction then open the respective line verification box and press the verification button provided in the line verification box.

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

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

6.3 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.

7. 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.

9. COUNTERS:

The following counters are provided in the Counter Box on SM's table 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. Up Calling on Counter.
5. DN Calling on Counter

In addition to the above counters, a counter is provided on the Reset Box of each Block section LVCD. 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:

Track circuits are provided in the yard as 4AT, 52T, L1T3, L1T2, L1T1, L3AXT, 8AT, 8T, 53AT, 53BT, 51AT, 51BT, 14AT, 16AT, 3T, 1T, 1AT, 3AT and L3XT, 55XT. Axle counters are provided for sections CONCOR Siding cabin-SCMN of VSP L-1, CONCOR siding-SCMN of VSP L-2 and CONCOR siding cabin-JGP of VSP L-2 for last vehicle verification. Block section indications for the above track circuits/ Axle counters are available on VDU at SM's office and Block section clear/occupied indications in reset box is provided in SM's office. When a signal is cleared the route indication 'Yellow' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

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.

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:

All points in the siding are operated by hand points. SH-12 is provided for shunting in sick line sidings and in shunting neck in siding with Motor operated point no. 52 in normal position. SH-11 is proved for shunting towards take off point.

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 of 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. 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.

20. 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.

21. EMERGENCIES:

Notwithstanding, anything contained in the aforesaid paras when equipment is found defective and unsafe for passage of trains, the Signal and Telecom staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of the defect or damage to the interlocking installation to the Station master and take the Station Master's acknowledgement. After this, the usual practice of exchange of disconnection memo and reconnection memo can follow.

The Station Master must act promptly on such messages and take adequate precaution treating the S&T installation as defective and pass trains over the affected interlocking equipment's according to extant instructions as contained in GR and SR.3.77.

22. PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL, POINTS AND USE OF EMERGENCY 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 Panel, the emergency 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 is provided for all the Motor operated Points. This is mechanically riveted to the Key of HKT. This Key along with Crank Handle can be released from the HKT by pressing the Common HKT Push Button after cutting the seal between HKT and the Crank Handle. The Station Master on duty in case of Point Motor failure will take out the Crank Handle set the Point manually by inserting Crank Handle on the Motor.

4. When the Crank Handle is removed from HKT for operation of the defective Motor Operated Points, the responsibility for its safe custody re-sets with the ASM/SM on duty till it is replaced back in HKT and sealed by Signal Maintainer.

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

6. Whenever an emergency Crank Handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the Points will be treated as defective till the Emergency Crank Handle is returned back to Station Master on duty.

7. Before parting with the Emergency 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 Emergency 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 Emergency Crank Handle must be recorded:

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

23. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

INTERLCOKING WITH HOME SIGNALS:

UP HOME Signals for section SCMN-CONCOR SIDING CABIN on both VSP Line no.1 & 2 are Electrically interlocked with the respective TLBI so that the handle of the TLBI Instrument cannot be turned from TRAIN COMING FROM position to LINE CLOSED position 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. INTERLCOKING WITH ADVANCED STARTER SIGNALS:

The DN Advanced Starter Signals No.14 & 16 on VSP L-2 & L-1 respectively are electrically interlocked with respective TLBI of section SCMN-CONCOR SIDING CABIN so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in' LINE CLEAR' position.

The UP advanced starter signal No.9 is interlocked with TLBI of section JGP-CONCOR SIDING CABIN on VSP Line no.2, so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in' TRAIN GOING TO' position.

25. SUSPENSION OF LAST STOP SIGNALS:

When the single line token less block instrument for section SCMN-CONCOR SIDING CABIN & JGP-CONCOR SIDING CABIN 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.

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

1. Digital Axle Counters are provided on twin single line Block Sections between SCMN-CONCOR SIDING CABIN & JGP-CONCOR SIDING CABIN on VSP L-2.

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].

27. POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS:

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

Normal supply from AT connected to OHE traction distribution [230V 50HZ].

(i)Stand by supply – (a) 1st standby power supply: Andhra Pradesh State Electricity Board Supply. (b) 2nd stand by power supply: DG set.

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 AT's.

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 of 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 two power supplies viz., AT and local for the changing the switch automatically to the supply available. The availability of the supply is indicated by luminous indicator above the circuit breaker for each supply.

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

ii). 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 [Two 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.

iii). 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.

iv). For IPS system that provides power to EI, 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 manually.

v). 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.

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

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

Power supply to the signalling installation is fed through Integrated Power Supply System [IPS] installed in the S&T power supply room. For IPS system, 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 all the sources of 230V 50HZ AC supply, the Signaling system shall be fed by power generated by backup battery bank connected to IPS for a limited power of 8 to 10 hours. The health of the battery bank is monitored through one IPS Monitoring Panel provided in the SM's room which shall display the voltage of 110 V.DV battery bank provided as backup source of power supply. Depending up on the health of the battery bank and the system the following indications/alarm will appear on the remote monitoring panel. The indications/alarm, their implications and action to be taken by 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 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.

WORKING OF AUTOMATIC FIRE DETECTION AND ALARM SYSTEM:

- In case of any alarm-Zone number on the LCD display can be seen.
- Note down the zone No. and 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, 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 fails on this will enable us to see the red indicator on the panel.
- In case of failure in power and if the battery is fully charged, the panel can function effectively as long as the charge in the battery is present.

AUTO DIALLING:

If you hear alarm from the panel, this system will dial the Railway Auto telephones as assigned to the all concerned.

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APPENDIX-'C'

ANTI COLLISION DEVICE (RAKSHA KAVACH)

Not available at this Station

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APPENDIX 'D'

DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT

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

COMPLEMENT OF STAFF	STAFF IN EACH SHIFT
SS/SM	01
TRAFFIC POINT MAN	01

1. STATION SUPERINTENDENT/STATION MASTER (IN CHARGE):

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

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

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

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

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

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

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

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

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

x) He shall see that TSR, SM's Diary, Inspection Note Book, Reference Books and other station record is properly maintained and preserved for a minimum period as prescribed in the Operating Manual.

xi) He shall ensure that all correction slips of Manuals and SWR are posted and changes are made in respective pages.

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

2. STATION MASTER:

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

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

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

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

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

f) 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.

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

h) He shall keep the Station Master's control keys of Block Instruments/Control Panel in his personal custody whenever, he is required to leave his office even for a short duration.

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

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

3. TRAFFIC POINTSMAN:

i) He shall work under the orders SM on duty.
ii) He shall be in proper neat and clean uniform while on duty.
iii) He shall always commence his duty equipped with hand signal lamps during night and flags during day.
iv) He shall couple and uncouple vehicles under the supervision of SM.
v) He shall watch and guard the packages and other Railway property lying in the Station premises.
vi) He shall report any irregularities coming to his notice.
vii) He shall do loading and unloading of parcels, smalls and Guard's boxes. He shall do piloting IN and OUT.
viii) He shall deliver any official message to the proper person/office. He shall carry out any other duties entrusted to him by the SM on duty.
ix) He shall not leave his duty unless properly relieved or authorized by his superiors.
x) He shall follow OM Chapter-2.

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

APPENDIX 'E'

LIST OF ESSENTIAL EQUIPMENT PROVIDED AT THE STATION:

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	First Aid Box	**1**
9	Stretcher	**1**
10	Blanket	**1**
11	Iron skids	**6**

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APPENDIX 'F'

RULES FOR WORKING OF DK STATIONS, HALTS, IBH, IBS AND OUTLAYING SIDINGS

NIL

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APPENDIX- 'G'

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS:

DETAILS OF WORKING RULES OF 25KV AC TRACTION.