EAST COAST RAILWAY
STATION WORKING RULES OF KOTTAVALASA (KTV)
STATION (BROAD GAUGE)

No:WTF/5/SWR/KTV

Date of Issue: _____
Date brought into force: _____

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

1. STATION WORKING RULE DIAGRAM

i) Station Working Rule Diagram SI/WRD No. 23101 Alt-N
ii) Signal Interlocking Plan SI-23101 Alt- N

2. DESCRIPTION OF STATION:

2.1 GENERAL LOCATIONS:

i.	Name of the Station:	KOTTAVALASA(KTV)
ii.	Class of Station:	'SPL CLASS'
iii.	Section:	HOWRAH-CHENNAI
iv.	Double/Single/Multiple line	Multiple line
v.	Electrified/Non-electrified	Electrified
vi.	Gauge BG/MG/NG	BG
vii.	Railway	East Coast Railway
viii.	Route	'B'
ix.	Situated at KM	852.940 KM
x.	From	HWH
xi.	Operations	Centrally operated dual VDU
xii.	Standard of Interlocking	Standard-III

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

i.	**Adjacent Block Station**		**Distance**		**Direction**
	KANTAKAPALLI (KPL)		7.755 km		HWH END
	PENDURTHI (PDT)		9.00 km		VSKP END
	MALLIVIDU (MVW)		8.90km		KRDL END
ii.	Provision of IBS		Nil		
iii	Automatic Signals	KTV-PDT	UP		UA-855/13A, UA-856/27A, UA-857/33A, UA-859/3A,
			DN		DA-859/8, DA-858/8A, DA-857/3, DA-856/1
			MIDDLE LINE	DN	MDA-859/10A, MDA-858/6A, MDA-857/2A, MDA-855/16A
				UP	MUA-855/26A, MUA-856/32A, MUA-858/1A, MUA-859/4A

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

			KK LINE	DN	KDA-855/12/1, KDA-856/14/1, KDA-857/17/1, KDA-859/2/1
				UP	KUA-859/5/, KUA-858/3/1, KUA-857/1/1, KUA-855/15/1
		KTV-KPL	UP	UA-847/9, UA-848/13, UA-849/19A, UA-850/31A,	
			DN	DA-850/28A, DA-849/22A, DA-848/16A, DA-847/12A.	
			MIDDLE LINE	DN	MDA-850/34A, MDA-849/22A, MDA-848/20, MDA-847/16
				UP	MUA-850/28A, MUA-849/15A, MUA-848/14, MUA-847/10.
iv	D K Stations/Outlaying stations	NIL			

PDT-KTV and KTV-KPL section all lines had been divided into series of automatic block Signaling section each of which is the portion of the running line between two consecutive stop signals and the entry into each of which is governed by a stop signal. Details of each signal are mentioned above.

DIRECTION SETTING PANEL FOR BI-DIRECTIONAL SINGLE LINE:

Direction of traffic for middle line and KK line single line sections are to be established by a pair of direction setting panels available at Station Master's Panel room. For establishing direction of traffic PDT-KTV block section, KTV is the "Controlling station" side and PDT is the "Controlled station". For establishing direction of traffic KTV-KPL block section, KPL is the "Controlling station" side and KTV is the "Controlled station".

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

Between Station	**Point at which Block Section Commences**	**Point at which Block Section Ends**
DOUBLE LINE SECTION:		
KTV-KPL	UP line:- The rear Block section commences at UP Last stop signal No.37 of KPL.	And terminates at UP facing point No. 55A of KTV.
	DN Line: - The advance block section commences at DN Last stop signal No. 50 of KTV.	And terminates at first facing point No.52A of KPL.
KTV-PDT	UP line:- The Advance Block section commences at UP Last stop signal No. 49 of KTV.	And terminates at UP facing point No.51A of PDT.
	DN Line: - The rear block section commences at DN Last stop signal No.44 of DN line of PDT.	And terminates at DN BSLB of KTV.

KK Double Line Section:		
KTV-MVW	DN line: The rear block section commences at DN Last stop signal No.26 of MVW.	And terminates at DN KK BSLB of KTV.
	UP line: The rear block section commences at UP Last stop signal No. 46 of KTV.	And terminates at BSLB of MVW.
Middle Line:		
KTV-PDT	The rear block section commences at DN Last stop signal No.46 of PDT for Middle line.	And terminates at UP last stop signal No. 47of KTV for Middle line.
KTV-KPL	The rear block section commences at UP Last stop signal No.39 of KPL for Middle line.	And terminates at DN last stop signal No. 48 of KTV for Middle line.

GRADIENTS IF ANY:

a) FROM THE CENTER OF THE OLD STATION BUILDING TOWARDS PENDURTI.

Line	FROM	TO	Inter distance	Gradient
For all lines	0.000	18M	18M	1 in 400 Falling
	18M	125M	107M	1 in 1730Falling
	125M	1500M	1375M	1 in 400 Falling
	1500M	1750M	250M	1 in 176 Falling
	1750M	2500M	750M	1 in 270 Falling
	2500M	3500M	1000M	1 in 190 Falling
	3500M	4200M	700M	1 in 340 Falling
	4200M	In to section	----	1 in 260 Falling

b) FROM THE CENTRE OF THE OLD STATION BUILDING TOWARDS KANTAKAPALLI AND TOWARDS MALLIVIDU.

Line	From	To	Inter distance	Gradients
For all lines	0.000M	1078M	1078M	1 in 400 raising
For KK, UP & DN lines	1078M	3768M	2690M	1 in 150 raising
	3768M	3968M	200M	1 in 221 raising
	3968M	In to section	---	1 in 150 raising
For UP, DN & Middle lines	1078M	3842M	2764M	1 in 150 raising
	3842M	4932M	1090M	1 in 189 raising
	4932M	In to section	----	Level

c) GRADIENTS FOR AUTO SECTION BETWEEN KTV-KPL SECTION:

Line	From	To	Inter distance	Gradients
UP LINE	Km: 845.35	Km: 846.95	1590M	1 in 1000 Raising
	Km: 846.95	Km: 848.00	1050M	1 in 200 Raising
	Km: 848.00	Km: 848.90	900M	Level
	Km: 848.90	Km: 849.85	950M	1 in 225 falling
	Km: 849.85	Km: 853.05	3200M	1 in 250 falling

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

MIDDLE LINE	Km: 845.185	Km: 846.481	1296M	1 in 600 raising
	Km: 846.481	Km: 847.535	1054M	1 in 250 raising
	Km: 847.535	Km: 848.017	536M	Level
	Km: 848.017	Km: 848.576	559M	1 in 150 falling
	Km: 848.576	Km: 849.144	568M	1 in 257 falling
	Km: 849.144	Km: 851.967	2823M	1 in 150 falling
	Km: 851.967	Km: 852.901	934M	1 in 400 falling
DN LINE	Km: 851.12	Km: 850.17	950M	1 in 225 raising
	Km: 850.17	Km: 849.77	400M	Level
	Km: 849.77	Km: 848.72	1050M	1 in 200 falling
	Km: 848.72	Km: 847.12	1600M	1 in 1000 falling
	Km: 847.12	Km: 846.89	230M	1 in 1000 falling
	Km: 846.89	Km: 846.39	500M	1 in 400 falling
	Km: 846.39	Km: 845.67	720M	1 in 150 falling

d) GRADIENTS FOR AUTO SECTION BETWEEN KTV-PDT SECTION:

Line	From	To	Inter distance	Gradients
UP LINE	Km: 854.05	Km: 854.60	550M	1 in 400 Falling
	Km: 854.60	Km: 855.80	1200M	1 in 200 Falling
	Km: 855.80	Km: 856.17	370M	1 in 600 falling
	Km: 856.17	Km: 857.03	860M	1 in 150 falling
	Km: 857.03	Km: 857.20	170M	Level
	Km: 857.20	Km: 860.25	3050M	1 in 300 falling
	Km: 860.25	Into PDT yard		1 in 600 falling
MIDDLE LINE	From KTV yard	Km: 854.363		1 in 260 falling
	Km: 854.363	Km: 854.798	435M	1 in 150 falling
	Km: 854.798	Km: 855.238	440M	1 in 195 falling
	Km: 855.238	Km: 855.438	200M	1 in 370 falling
	Km: 855.438	Km: 856.038	600M	1 in 154 falling
	Km: 856.038	Km: 856.438	400M	1 in 404 falling
	Km: 856.438	Km: 857.138	700M	1 in 340 falling
	Km: 857.138	Km: 859.238	2100M	1 in 320 falling
	Km: 859.238	Km: 860.588	1350M	1 in 700 falling
DN LINE	Km: 860.729	Km: 859.330	1399M	1 in 600 raising
	Km: 859.330	Km: 856.430	2900M	1 in 300 raising
	Km: 856.430	Km: 856.230	200M	Level
	Km: 856.230	Km: 855.429	801M	1 in 150 raising
	Km: 855.429	Km: 853.650	1779M	1 in 200 raising
KK LINE	CH: 1250M From PDT	CH: 2600M	1350M	1 in 700raising
	CH: 2600M From PDT	CH: 3900M	1300M	1 in 320raising
	CH: 3900M From PDT	CH: 4200M From KTV	--	1 in 260raising
	CH: 4200M From KTV	CH: 3500M	700M	1 in 340raising
	CH: 3500M From KTV	CH: 2500M	1000M	1 in 190raising
	CH: 2500M	CH: 1750M	750M	1 in 270raising

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

	From KTV			
	CH: 1750M From KTV	CH: 1500M	250M	1 in 176raising
	CH: 1500M From KTV	To KTV Yard	--	1 in 400raising

2.5 LAY OUT

2.5.1 NUMBER OF RUNNING LINES (Nine Lines):-

Sl.No	Running lines	Name of the line	CSR	Whether Electrified/Non Electrified.
1.	Line No.1	Common Loop	874 M (STR TO STR)	Electrified
2.	Line No.2	Up Main line	897 M (STR TO SH)	-do-
3.	Line No.3	Middle Line	790 M (STR TO STR)	-do-
4.	Line No.4	Common Loop Line	755 M (STR TO STR)	-do-
5.	Line No.5	DN Loop	834 M (STR TO SH)	-do-
6.	Line No.6	DN Main Line	892 M (STR TO SH)	-do-
7.	Line No.7	Common Goods Loop	754 M (STR TO STR)	-do-
8.	Line No.8	Common loop line	763 M (STR TO STR)	-do-
9.	Line No.9	Common loop line	742 M (STR TO STR)	-do-

2.5.2 NON RUNNING LINES AND THEIR CAPACITY IN CSR

A. **Hot Axle Siding:** One Hot Axle siding takes off from Overrun line of line no. 4 towards PDT end, having CSL of 46M (SH to SS) and is isolated by DS-84. This siding is controlled by SH-14.

B. **Track Machine Siding:** The siding takes off from overrun line of line no. 1 towards PDT end and is isolated by DS point no. 80 having CSL of 290M. The siding is controlled by SH-18.

C. **PLATFORMS:**

Sl No.	BETWEEN LINES	Electrified/ Non Electrified	Platforms with length
1.	Line No.1	Electrified	High Level Passenger platform (577M X 10.83M)
2.	Line No.2 & 3	-do-	High Level Island Passenger platform (577M X 11.06M)
3.	Line No.4 & 5	-do-	Low Level Passenger platform (357M X 10.74M)
4.	Line No.9	-do-	High Level Passenger platform (400M X 10M)

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT: NIL

2.6 LEVEL CROSSINGS: NIL

3.0 SYSTEM AND MEANS OF WORKING: -

System of working in force	PDT-KTV	AUTOMATIC BLOCK SYSTEM WORKING
	KTV-KPL	
	KTV-MVW	ABSOLUTE BLOCK SYSTEM WORKING
Double line/single line/multiple line	PDT-KTV	FOUR LINES (UP, DN, MIDDLE & KK Lines)
	KTV-KPL	THREE LINES (UP, DN, MIDDLE Lines)
	KTV-MVW	DOUBLE LINES (UP & DN Lines)

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING:

1	Standard of Interlocking	Standard- III
2	Type of Signalling	MACLS
3	Mode of operating the signals	Visual Display Unit (VDU)
4	Provision of Calling-on signals	Calling on signals are provided below home signals and starter signals (in both UP & DN direction) as per G&SR 3.13(1)(b), (2)(3)(4) & 6(b). In the event of failure of the main reception/dispatch signals, Calling on signal option shall be taken after the train has come to a stop at the foot of reception/dispatch signal ensured by seeing calling on track circuit red indication. After selecting the calling on signal of required route, the signal will clear after a lapse of 60 sec for reception signals and 0 sec for dispatch signals. The respective counter registers the operation by an increment of one number on the count. SM on duty shall record the details of operation of calling-on signal in the concerned register.
5	Provision of Shunt Signals	Back shunt Signals SH 8 (A-H), SH 10 (A-H), SH 12(A-H) SH-20 (A-C) are provided at PDT end and SH 7(A-I), SH 9(A-I), SH 11(A-I) are provided at KPL end for back shunting purpose.
		Independent Shunt signals SH-14, SH-18, SH-27 (A-B), SH-29 and (A-B) SH-41, are provided at PDT end and SH-36 (A-C) is provided at KPL end for yard shunting. Dependant shunt signals SH-19 (A-C), SH-21 (A-B), SH-23, SH-25 (A-B), SH-31, SH-33 (A-B),SH-35 (A-C) and SH- 43 (A-C) are provided

		at PDT end and SH-22 (A-B), SH-24(A-B), SH-26(A-B), SH-28, SH-30, SH-32, SH-34, SH-38(A-C), SH-42(A- C), SH-44(A-C) are provided at KTV and MVW end for yard shunting.
6	Emergency Cross over	**Nil**
7	Track Circuits	**PDT END:** 6AT,6T,45AT,2AT,2T1,2T2,4AT,4T,47AT,49AT ,49T,52AT,52BT,70T,70T1,64/66T,54AT,54/5 6T,58AT,58BT, 60AT,72AT,60/72T,62/66T,62BT,56AT,76AT, 76BT, 68T, 78/80T, 78AT, 82/84T, 82AT **BERTHING PORTION:** L1T1, L1T2, L1T3, 19AT, 38AT, L2T1, L2T2, L2T3,21AT L3T1, L3T2, L3T3, 23AT, 34AT, L4T1, L4T2, L4T3, 32AT, 25AT, L5T1, L5T2, L5T3, 30AT, L6T1, L6T2, L6T3, 28AT, L7T1, L7T2, L7T3, 31AT,26AT, L8T1, L8T2, L8T3,24AT,33AT, L9T1, L9T2, L9T3, 22AT,35AT **KPL & MVW END:** 77BT,77/79T,79BT,73AT,73BT,75T,65AT,65B T,65T1, 44AT,63AT,63BT,63T1,61AT,61BT,61T1,61T2, 51AT1,51AT,51BT,53AT, 53/55T, 59BT, 57/59T, 57BT, 55AT, 50AT, 50T, 48AT, 3AT, 3T, 1AT, 1T1, 1T2, 46AT, 46T, 5AT, 5T, 5T1, The station yard is provided with track circuits along with 5Rail length Calling-ON track circuits for Main reception/dispatch signals to ascertain proper positioning of train movement.
8	Axle counters	Auto block sections between KTV-PDT and KTV-KPL are provided with Multi section digital axle counters/MSDAC. **For KTV-PDT SEC:-** Each line in the section is divided into 5 track sections. **For KTV-KPL SEC**:- Each line in the section is divided into 5 track sections. **For KTV-MVW SEC:-** High availability single section digital axle counters are provided in UP & DN lines between KTV-MVW sections for last vehicle verification. (Refer 12 of Appendix-B for details).
9	Crank Handle	When any point fails to operate normally by the Route Setting operation or through the concerned point button through VDU, it is inevitable to operate the points with crank handle. 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

<table>
<tr><td></td><td></td><td>defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual para-20.06.
<table>
<tr><th>Crank Handles</th><th>Points</th></tr>
<tr><td>CH1</td><td>51A/B, 73A/B</td></tr>
<tr><td>CH2</td><td>53A/B, 59A/B</td></tr>
<tr><td>CH3</td><td>55A/B, 57A/B</td></tr>
<tr><td>CH4</td><td>63A/B</td></tr>
<tr><td>CH5</td><td>65A/B</td></tr>
<tr><td>CH6</td><td>75A/B</td></tr>
<tr><td>CH7</td><td>77A/B, 79A/B</td></tr>
<tr><td>CH8</td><td>52A/B, 60A/B, 72</td></tr>
<tr><td>CH9</td><td>54A/B, 58A/B</td></tr>
<tr><td>CH10</td><td>56A/B, 76A/B</td></tr>
<tr><td>CH11</td><td>78A/B, 80</td></tr>
<tr><td>CH12</td><td>82A/B, 84</td></tr>
<tr><td>CH13</td><td>68A/B</td></tr>
<tr><td>CH14</td><td>62A/B, 66A/B</td></tr>
<tr><td>CH15</td><td>64</td></tr>
<tr><td>CH16</td><td>70</td></tr>
<tr><td>CH17</td><td>61A/B</td></tr>
</table>
(Refer 4.5,5.3,6 & 7 of Appendix-B of this SWR for complete details).</td></tr>
<tr><td>10</td><td>Emergency Point Operation</td><td>Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose. (Refer 5.2 of Appendix-‘B’).</td></tr>
<tr><td>11</td><td>Showing of Veedor Counters</td><td>One counter icon has been provided on the VDU. When selected a drop down menu will appear indicating the following counters.
1. Emergency Route Release.
2. Emergency Point Operation.
3. Calling on counter (DN LINE)
4. Calling on counter (UP LINE)
When the pointing device is placed any one of the menu the latest counter number will pop-up on VDU.
Each operation of emergency is recorded by registering the next higher number. All such operations and the new number should be recorded in the train signal register, SM Dairy and register meant for this purpose.</td></tr>
<tr><td>12</td><td>Emergency Route Release operation</td><td>All the signals in the station are provided with ‘DEAD APPROACH LOCKING’. As such when a route is set and signal is taken ‘OFF’ on the route, the route gets locked. Normally the route is released by the passage of the</td></tr>
</table>

		train over the route. When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), emergency route release operation procedure as mentioned in (Para no. 5.1 of Appendix-'B').
13	Emergency Crank Handle Release	When a crank handle is locked due to route set earlier is not released or otherwise to Transmit or Release control of the Crank Handle, SS/SMon duty shall follow as per para no. 5.3 of Appendix'B'
14	Emergency Gate release	NIL

4.2 CUSTODY OF RELAY ROOM KEY AND PROCEDURE FOR ITS HANDINGOVER AND TAKING OVER BETWEEN STATION MASTER AND S&T MAINTENANCESTAFF:-

Custody of Relay room key and procedure for its handover and taking over between SM and S&T staff has to follow the procedure as per JPO issued by COM and CSTE vide no. JPO/02/2012 dated 29.08.2012.

Relay room is provided with two independent locks. The key of one lock shall be in the personnel custody of Station Master on duty and the key of other lock shall be in the custody of S&T Maintainer. In the event of necessity such as for attending failure, or regular maintenance, on being requisitioned by S&T maintainer, SM shall hand over the key to the Maintainer. On completion of the work, maintainer shall lock the relay room and shall return the key to SM. The particulars of such transactions shall be entered by the SM in the relay room key register vide OM 2015 para No.13.16

4.3 POWERSUPPLY:

A changeover switch is provided in the SM's office with three power supplies viz. UP AT, DN AT and local for changing the switch to the required supply position. A luminous indicator above the circuit breaker for each supply indicates the availability of the supply. (For complete details refer 26 & 27 of Appendix- 'B').

5.0 TELECOMMUNICATIONS:

The following telecommunication facilities are provided at the RRI cabin to deal with the train movement.

SL NO	TYPE OF COMMUNICATIONS	SECTION/STATION
i)	a) Section Control	VSKP-WMY-DVD-VSP-NTPC-SCMN-KTV(VSKP Complex)
	b) Section control	KTV-PSA
	c) Section control	KTV-KRPU
	d) Traction Power Control TPC)	VSKP-KRPU
	e) Traction Power Control (TLC)	VSKP-PSA
	f) Traction Power Control (TLC)	VSKP-KRPU
	g) Traction Power Control (TPC)	VSKP-PSA
ii)	AUTO TELEPHONE	Connecting to Divisional HQ & all stations on Mainline
	DOT TELEPHONE	Connecting to all DOT lines.
iii)	MAGNETO TELEPHONE	

	Between SM office and adjacent stations.	South end- PDT North end KPL West end – MVW
	Between SM office and crank handle locations	Up and Down CH locations
iv)	BLOCK TELEPHONE	
	SM Office	MVW on Double line block instrument.
v)	Hot line connection	Between KTV-PDT , KTV-KPL and KTV-MVW
vi)	VHF set provided station	--
vii)	CUG phone provided at station	--

6. SYSTEM OF TRAIN WORKING:

The movement of trains is controlled by section controller on duty whose orders shall be complied with provided they do not contravene any provisions of General Rules, Subsidiary Rules, Station Working Rules, Block working manual and any other safe working instructions issued from time to time.
In the event of suspension of control working the Station Master on duty shall work independently in conjunction with the Station Master of adjoining Block Stations and shall be responsible to ensure that there is no undue delay to train operation in general.

6.1 DUTIES OF TRAIN WORKING STAFF IN EACH SHIFT:

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

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

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

The above staff shall work as per roster issued from time to time by Divisional Railway Manager (P) and these rosters shall be conspicuously displayed in the Station Supdt's office (details of duties are given in APPENDIX-'D').

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

The SM on duty is solely responsible to ascertain the clearance of the nominated line from home to advance starter on concerned lines by indication on VDU.

USE OF PRIVATE NUMBER BOOKS AND IDENTIFICATION NUMBER SHEETS:
Sufficient private number books and identification number sheets in sealed covers shall always be kept in stock by SMR under lock key by maintaining register for this purpose.

6.1.3 ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:

All staff before taking up independent charge of their duties at this station shall, make a written declaration in the Assurance Register that they have read the

SWR thoroughly and understand the system of working in force at the station and must sign such declaration.

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

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

Fresh assurance shall be obtained in the Assurance Register when:

1. He joins at the station as a new member.
2. There is any change in the Station Working Rules.
3. He resumes duty at the station after an absence of 15 consecutive days or more.

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

6.2 **CONDITIONS FOR GRANTING LINE CLEAR:**

a. DOUBLE LINE AUTOATC BLOCK SECTION (For section KTV-PDT & KTV-KPL)
Taking/Granting line clear to UP and DN trains are not required during normal working as per BWM 7.05(1) and GR 9.01 (c)(i) & 9.01(2).

b. DOUBLE LINE ABSOLUTE BLOCK SECTION (For section KTV-MVW)

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.

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

i. SM ensures the reception signals pertaining to a train are in 'ON' position and glowing properly Vide GR 3.49 (4).
ii. Whole of the last preceding train has arrived completely.
iii. DN Home signal/Calling on signal No.5 (A-G) and/or C5(A-G) is put back to 'ON' position.
iv. Line is clear up to BSLB.

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

c. SINGLE LINE SECTION:
Line clear is required for establishing direction of traffic. Before granting line clear to a UP/DN trains, SM on duty at panel room shall ensure that block section is clear and private number shall be exchanged. (Refer GR 9.13(1)(2) and BWM 7.15 & 7.17).

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

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE:
When a running line is blocked by stabled load, wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train of the station etc., the points in rear on double line sections and at either end in single line sections should be immediately set against the blocked line except when shunting or any other movement is required to be done on that line.[Refer GR3.51.06(a)].
If all the lines at a station happen to be blocked, when line clear has been granted to a train, the point should be set for the line occupied by a stabled load or a Goods train. [Refer SR. 3.51.06 (b)].
The above precautions shall be taken in addition to the observance of other precautions. [Refer SR 5.04.01 & SR 5.23.01].

6.2.1.2 RECEPTION OF A TRAIN ON BLOCKED LINE:
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 on signal cannot be taken off, trains are to be piloted in on a written authority on Form T/509 given by SM on duty and delivered by a competent railway servant to the Loco pilot of the train as per GR 5.09 (2)(c)(3)(4)(5) and SR 5.09.01.

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE;
Before receiving a train on non-signaled line, the SM shall ensure that -

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

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE :
Whenever a train is to be dispatched from a non-signaled line, a Starting Order on form T-511 shall be given to the Driver to start from the non-signaled line. [Refer SR.5.11.1]

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

6.2.1.6 SPECIAL CONDITIONS:

a) SPECIAL RESTRICTIONS:

i) Shunting in the face of an approaching train towards MVW & KPL ends are prohibited due to continuous 1 in 150 falling gradient from block section.

ii) While shunting on gradient towards PDT end, an engine is to be attached towards the falling side of the gradient.

b) SPECIALINSTRUCTIONS: NIL

6.3 CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS: -

The SM on duty shall nominate a clear line not only up to the starter but also for an adequate distance beyond it for reception of trains. [Refer GR 3.36, 3.38, 3,40, 4.17 and SR 3.36.01, 3.36.02, 3.36.04, 3.40.01, 3.40.02, 3.47.01, 4.17.02, and Block Working Manual].

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

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

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

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

a) While receiving a train from KPL END.

1	Reception of an UP train from UP/Middle on line no. 1 set to ORL.	AND	Simultaneous dispatch of an UP train from Line no. 2 or 3 or 4 or 7 or 8 or 9 on UP line to PDT.
2	Reception of an UP train from UP/Middle on line no. 3 or 4 set to 58 AT.	AND	Simultaneous dispatch of a train from DN line on line no. 5 to 9. AND Simultaneous dispatch of a train from line no.1 on UP line.
3	Reception of an UP train from UP/Middle on line no.4 set to ORL.	AND	Simultaneous reception of a DN train from DN line on line no. 5 to 9. AND Simultaneous dispatch of an UP train from line no. 1 or 2 or 3 on UP/middle line. OR Simultaneous dispatch of an UP train from line no. 1 or 2 or 3 on UP/Middle/KK line.
4	Reception of an UP train from UP/Middle or a DN train from KK on line no.7 set to sand hump.	AND	Simultaneous reception of a DN train from DN /Middle or an UP train from KK on line no.9 set to S-46. OR Simultaneous reception of a DN train from DN/Middle or an UP train from KK on line no. 1 set to ORL. OR

			Simultaneous reception of a DN train from DN/Middle or an UP train from KK on line no.4 set to ORL. OR Simultaneous dispatch of a train from line no. 1 or 2 or 3 or 4 or 8 or 9 on UP/Middle/KK to PDT. Or Simultaneous dispatch of an UP train to MVW from line no. 8 or 9.
5	Reception of an UP train from UP/Middle or a DN train from KK on line no.8 set to DS-72.	AND	Simultaneous reception of a DN train from DN /Middle or an UP train from KK on line no.9 set to S-46. OR Simultaneous reception of an UP train to from KK on line no.9 to S-46. AND Simultaneous dispatch of an UP train to MVW from line no.9. AND Simultaneous reception of an UP train from KK or a DN train from DN/Middle on line no.1 set to ORL. OR Simultaneous reception of an UP train from KK or a DN train from DN/Middle on line no.4 set to ORL. OR Simultaneous dispatch of a train to PDT from line no.1 or 2 or 3 or 4 on UP/Middle/KK.
6	Reception of an UP train from UP/Middle on line no.9 set to ORL.	AND	Simultaneous reception of an UP train from KK or a DN train from DN/Middle on line no.1 or 4 set to ORL. OR Simultaneous dispatch of train to PDT from line no. 1 or 2 or 3 or 4 on UP/Middle/KK.

b) While receiving a train from MVW END.

1	Reception of a DN train on line no. 1 set to ORL.	AND	Simultaneous reception of an UP train from KK on line no.7 set to ORL. OR Simultaneous reception of an UP train from KK or a DN train from DN/Middle on line no.4 or 1 set to ORL. OR Simultaneous dispatch of a train to PDT from line no.2 or 3 or 4 or 7 or 8 or 9 on UP/Middle/KK.
2	Reception of a DN train on line no. 2 set to S-43.	AND	Simultaneous reception of a train from PDT on line no.7 set to ORL. OR

			Simultaneous dispatch of a DN train to PDT from KK line no. 7 or 8 or 9. OR Simultaneous reception of a train from PDT on DN/Middle line on Line no.4 set to ORL.
3	Reception of a DN train on Line no.3 set to S-23.	AND	Simultaneous reception of a train from PDT on line no.7 set to ORL. OR Simultaneous dispatch of a DN train from KK on line no. 7 or 8 or 9.
4	Reception of a DN train on line no.4 set to ORL.	AND	Simultaneous reception of an UP train from KPL on UP on line no. 1 or 2. AND Simultaneous reception of an UP train from KK on line no.7 set to ORL. OR Simultaneous dispatch of an UP train from line no. 1 or 2 or 3 on UP/Middle/KK line. OR Simultaneous dispatch of a train from line no. 7 or 8 or 9 to PDT on UP/Middle/KK.
5	Reception of a DN train on line no.7 set to sand hump.	AND	Simultaneous reception of an UP train from KPL on UP/Middle on line no. 1 or 2 or3 or 4. AND Simultaneous dispatch of a DN train from KK line to PDT on line no. 8 or 9. OR Simultaneous reception of a train from DN/Middle/KK on line no. 1 or 4 set to ORL. OR Simultaneous dispatch of a train from line no. 1 or 2 or 3 or 4 or 8 or 9 on UP/Middle/KK to PDT. OR Simultaneous dispatch of a DN train on DN/Middle from line no. 1 or 3 or 4 or 5 or 6.
6	Reception of a DN train on line no.8 set to DS-72.	AND	Simultaneous reception of an UP train from KPL on UP/Middle on line no. 1 or 2 or3 or 4. AND Simultaneous dispatch of a DN train from KK line to PDT on line no.9 to PDT. OR Simultaneous reception of a train from DN/Middle/KK on line no. 1 or 4 set to ORL. OR Simultaneous dispatch of a train from line no. 1 or 2 or 3 or 4 or 9 on UP/Middle/KK to

			PDT. OR Simultaneous dispatch of a DN train on DN/Middle from line no. 1 or 3 or 4 or 5 or 6.
7	Reception of a DN train on line no.9 set to DS-64.	AND	Simultaneous reception of a train from PDT on DN/Middle/KK on line no.1 or 3 or 4 or 5 or 6. OR Simultaneous reception of a train from PDT on KK line no. 7 set to ORL. OR Simultaneous dispatch of a train from line no. 1 or 3 or 4 or 5 or 6 on DN/Middle to KPL. OR Simultaneous dispatch of a train from line no. 1 or 2 or 3 or 4 or 7 or 8 on UP/Middle/KK to PDT.

c) While receiving a train from PDT end on Middle line.

1.	Reception of a train on Line no.1 set to ORL.	AND	Simultaneous reception of a train on Line no.4 set to ORL from KPL/MVW. AND Simultaneous reception of a train from PDT on DN/KK on Line no.9 set to S-46. OR Simultaneous dispatch of a train from Line no.3 or 4 or 5 or 6 or 7 or 8 or 9 to KPL/MVW. OR Simultaneous dispatch of a train to PDT from line no.7 or 8 or 9 on KK.
2	Reception of a train on Line no.3 set to S-44.	AND	Simultaneous reception of a train from KPL on UP line on line no. 1 or 2 set to S-49. AND Simultaneous reception of a train from MVW on Line no. 7 or 8 or 9. OR Simultaneous reception of a train from PDT DN line on Line no. 5 or 6 or 8 or 9. OR Simultaneous dispatch of a train to KPL/MVW from Line no. 5 or 6 or 7 or 8 or 9 on DN/KK. AND Simultaneous dispatch of a train to PDT from Line no. 1 or 2 set to S-49. OR Simultaneous dispatch of a train to PDT from

3	Reception of a train on Line no.4 set to ORL.	AND	Simultaneous reception of a train from KPL/MVW on Line no. 1 or 2 set to S-49. AND Simultaneous reception of a train from PDT on DN/KK on Line no. 5 or 6 or 8 or 9. OR Simultaneous dispatch of a train to KPL/MVW from Line no.1 or 3 or 5 or 6 or 7 or 8 or 9. OR Simultaneous dispatch of a train to PDT on UP line from Line no. 1 or 2. AND Simultaneous dispatch of a train to PDT on KK from Line no. 7 or 8 or 9.
4	Reception of a train on Line no.5 set to 73AT.	AND	Simultaneous reception of a train from MVW on Line no. 7 or 8 or 9. AND Simultaneous reception of a train from KPL on UP/Middle on Line no. 1 or 2 set to S-49 or on Line no.4 set to ORL. OR Simultaneous reception of a train from PDT on KK on Line no. 7 or 8 or 9 OR Simultaneous dispatch of a train from Line no.1 or 3 or 4 to KPL on Middle/KK. AND Simultaneous dispatch of a train to MVW from Line no. 7 or 8 or9. OR Simultaneous dispatch of a train to PDT on UP line from Line no. 1 or 2. AND Simultaneous dispatch of a train to PDT from Line no. 7 or 8 or 9 on KK. Line no. 7 or 8 or 9.
5	Reception of a train on Line no.6 set to 73AT.	AND	Simultaneous reception of a train from KPL UP/Middle on Line no. 1 or 2 set to S-49 or on Line no.4 set to ORL. AND Simultaneous reception of a train from MVW on Line no. 7 or 8 or 9 set to S-45. OR Simultaneous reception of a train from PDT on KK line on Line no. 7 or 8 or 9 set to S-46. AND Simultaneous dispatch of a train to KPL on Middle line from Line no. 1 or 3 or 4. AND Simultaneous dispatch of a train to PDT on

			UP line from Line no. 1 or 2.
6	Reception of a train on Line no.7 set to ORL.	AND	Simultaneous reception of a train from KPL on UP/Middle on Line no.1 or 2 set to S-49. AND Simultaneous reception of a train from MVW on Line no.9 set to ORL. OR Simultaneous dispatch of a train to KPL/MVW from Line no. 1 or 3 or 4 or 5 or 6 or 8 or 9. AND Simultaneous dispatch of a train on UP line to PDT from Line no. 1 or 2.
7	Reception of a train on Line no. 8 or 9 set to S- 46.	AND	Simultaneous reception of a train from KPLon UP/Middle on Line no. 1 or 2 set to S-49 oron Line no.4 set toORL. AND Simultaneous dispatch of a train to KPL from Line no. 1 or 3 or 4 or 5 or 6 on DN/Middle. AND Simultaneous dispatch of a train to PDT on UP line from Line no. 1 or 2.

d) While receiving a train from PDT end on DNline.

1	Reception of a train on Line no.1 set to ORL.	AND	Simultaneous reception of a train on Line no.7 or 8 or 9 set to S-45 from KPL/MVW. AND Simultaneous dispatch of a train from Line no. 3 or 4 or 5 or 6 to KPL/MVW. AND Simultaneous dispatch of a train to PDT from line no.7 or 8 or 9 on KK.
2	Reception of a train on Line no.3 set to S-44.	AND	Simultaneous reception of a train from KPL on UP line on Line no. 1 or 2. AND Simultaneous reception of a train from MVW on Line no. 7 or 8 or 9 set to S-45. OR Simultaneous dispatch of a train to MVW from Line no. 5 or 6 or 7 or 8 or 9. OR Simultaneous dispatch of a train to PDT on KK from Line no. 7 or 8 or 9.
3	Reception of a train on Line no.4 set to ORL.	AND	Simultaneous reception of a train from KPL/MVW on Line no. 1 or 2 set to S-49. AND Simultaneous reception of a train from PDT on KK line on Line no. 5 or 6 or 7 or 8 or 9.

			OR Simultaneous dispatch of a train to KPL/MVW from Line no. 1 or 3 or 5 or 6 or 7 or 8 or 9. OR Simultaneous dispatch of a train to KPL/MVW from Line no. 1 or 3 or 5 or 6. AND Simultaneous dispatch of a train to PDT on KK from Line no. 7 or 8 or 9.
4	Reception of a train on Line no. 5 or 6 set to 73AT.	AND	Simultaneous reception of a train from MVW on Line no. 7 or 8 or 9. AND Simultaneous reception of a train from KPL on UP/Middle on Line no. 1 or 2 set to S-49 or on Line no.4 set to ORL. OR Simultaneous reception of a train from PDTon KK line on Line no. 7 or 8 r9. OR Simultaneous dispatch of a train from Line no.1 or 3 or 4 on Middle/KK to KPL. AND Simultaneous dispatch of a rain to MVW from Line no. 7 or 8 or 9. OR Simultaneous dispatch of a train to PDT on UP/Middle from Line no. 1 or 2 or 3 or 4. AND Simultaneous dispatch of a train to PDT on KK from Line no. 7 or 8 or 9.
5	Reception of a train on Line no.8 set to S-46.	AND	Simultaneous reception of a train from KPL/MVW on Line no.1 or 2 or 3 or 4. OR Simultaneous reception of a train from PDT on Middle line on Line no. 1 or 3 or 4. AND Simultaneous dispatch of a train to PDT from Line no. 9 on KK. OR Simultaneous dispatch of a train to KPL from Line no. 1 or 3 or 4 or 5 or 6 on DN/Middle. AND Simultaneous dispatch of a train to PDT onKK from Line no.9.
6	Reception of a train on Line no.9 set to S-46.	AND	Simultaneous reception of a train from KPL/MVW on Line no. 1 or 2 or 3 or 4. OR Simultaneous reception of a train from PDT on Middle line on Line no. 1 or 3 or 4. OR Simultaneous dispatch of a train to KPL on

			DN/Middle from Line no. 1 or 3 or 4 or 5 or 6.

e) While receiving a train from PDT end on KK line.

1	Reception of a train on Line no.1 set to ORL.	AND	Simultaneous reception of a train from KPL/MVW on Line no.4 set to ORL. OR Simultaneous dispatch of a train to KPL/MVW from Line no. 3 or 4 or 5 or 6 or 7 or 8 or 9.
2	Reception of a train on Line no.3 set to S-44.	AND	Simultaneous reception of a train from KPL UP line on Line no.1 or 2 set to S-49. AND Simultaneous reception of a train from MVW on Line no.7 set to sand hump or on Line no.8 set to DS-72 or on Line no.9 set to ORL. OR Simultaneous dispatch of a train to DN/KK from Line no. 5 or 6 or 7 or 8 or 9. AND Simultaneous dispatch of a train to PDT on UP line from Line no. 1 or 2.
3	Reception of a train on Line no. 4 set to ORL.	AND	Simultaneous reception of a train from KPL/MVW on Line no.1 or 2 or 7 or 8 or 9. OR Simultaneous reception of a train from MVW on line no.7 set to sand hump or on Line no.8 set to DS-72 or on Line no.9 set to ORL. AND Simultaneous reception of a train from KPL UP line on Line no. 1 or 2. OR Simultaneous dispatch of a train on KK/DN line from Line no. 5 or 6 or 7 or 8 or 9. AND Simultaneous dispatch of a train to PDT on UP line from Line no. 1 or 2.

4	Reception of a train on Line no. 5 or 6 set to S- 42.	AND	Simultaneous reception of a train from KPL on UP/middle on Line no. 1 or 2 or 3 or 4. AND Simultaneous reception of a train from MVW on Line no.7 set to sand hump or on Line no.9 set to ORL. OR Simultaneous dispatch of a train to KPL on Middle line from Line no. 1 or 3 or 4. AND Simultaneous dispatch of a train to MVW from Line no. 7 or 8 or 9. AND Simultaneous dispatch of a train to PDT on UP/Middle from Line no. 1 or 2 or 3.or 4.
5	Reception of a train on Line no. 70 set to ORL.	AND	Simultaneous reception of a train from KPL/MVW on UP/middle on Line no. 1 or 2 or 3 or 4. OR Simultaneous reception of a train from PDT on DN/Middle on Line no.1 or 3 or 4 or 5 or6. AND Simultaneous dispatch of a train to MVW from Line no. 8 or 9.
6	Reception of a train on Line no. 8 set to S-46.	AND	Simultaneous reception of a train from KPL on UP/middle on Line no. 1 or 2 or 3 or 4. OR Simultaneous reception of a train from PDT on DN/Middle on Line no.1 or 2 or 3 or 4 or 5 or 6 set to S-42 or S-44. OR Simultaneous dispatch of a train to KPL on DN/Middle from Line no. 1 or 3 or 4 or 5 or 6.
7	Reception of a train on Line no. 9 set to S-46.	AND	Simultaneous reception of a train from KPL on UP/middle on Line no. 1 or 3 or 4 or on Line no.7 set to sand hump or on Line no.8 set to DS-72. OR Simultaneous reception of a train from PDT on DN/Middle on Line no.1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 set to S-42 or S-44. OR Simultaneous dispatch of a train to KPL on DN/Middle from Line no. 1 or 3 or 4 or 5 or 6 or 7 or 8. OR Simultaneous dispatch of a train to PDT on UP/Middle from Line no. 1 or 2 or 3 or 4 or 8.

6.5 COMPLETE ARRIVAL OF TRAINS:

The entire block section between KTV-PDT and KTV-KPL on both UP, DN, Middle and KK lines are monitored by Automatic Block signaling and the position of the auto section whether 'occupies' or 'clear' is indicated in separate monitor provided at SM's room. Both side Advanced Starters are controlled by signal in advance of Auto section. As soon as train occupies the first auto section, the 'RED' indication appears in the VDU. After whole train clears the first auto section, clear indication 'white' appears on the VDU of auto section.

When the train clears the track circuit provided beyond the UP home signal, this indicates complete arrival of the UP train. When the train clears the track circuit provided beyond the DN Home signal, this indicates complete arrival of the DN train. Thereafter, SM on duty shall inform to the SM of the rear station regarding complete arrival of the train indicating the number and description of the train and its arrival time supported by the Private Number.

If a train passes through the station without confirming the last vehicle indicator, the Station Master on duty shall follow SR 4.17.02 and 4.17.03.

The entire block section between KTV-MVW KK Double line are monitored by digital axle counter system and the position of the block section whether 'occupied' or 'clear' is indicated on VDU at SS/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 SS/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.

6.6 DISPATCH OF TRAINS:

DESPATCH OF TRAINS BETWEEN KTV-PDT & KTV-KPL (DOUBLE LINE SECTION):

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

DESPATCH OF TRAINS BETWEEN KTV-PDT & KTV-KPL (SINGLE LINE SECTION)

For dispatching trains in UP & DN directions, SM (Panel) on duty shall establish direction of traffic. Before establishing direction of traffic in UP & DN direction, SM on duty at Panel shall ensure clearance of the block section

under exchange of Private Number with adjacent stations. Private Numbers exchanged shall be recorded in the Train Log Register at both stations.(Refer 1.17 of Appendix 'B'.

6.6.1 DESPATCH OF TRAINS ON UP line ON KK DOUBLE LINE BETWEEN KTV-MVW:

The advanced starter signal No. 46 of KTV shall be taken 'OFF' only when the 'Axle counter' clear indication available on VDU.
The SS/SM on duty shall watch the safe passage of the train with its last vehicle indicator. If a train is worked without Guard or Brake Van the instruction laid down in subsidiary rule shall be followed.

6.6.2 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:

i). The provision of GR 3.40, 4.17, 4.42 with relevant SRs and SR 3.42.02(a)(iv) and other relevant provision of BWM shall be observed.

ii). The sequence for taking 'OFF' signals for run through trains is governed by SR 3.42.02 (a).

iii). In every case in which trains are permitted to run through on a non-isolated line, all shunting shall be stopped and no vehicle unattached to an engine or not properly secured in accordance with rule 5.23 may be kept standing on a connected line which is not isolated from through line vide SR4.11(2).

iv). The SS/SM on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General and Subsidiary Rule. [Ref GR 3.42, 4.17, 4.42& SR 4.42.02 (b) (i) ,(ii), (iii),c & (d)].

6.8 WORKING IN CASE OF FAILURE:

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

TRACK CIRCUITS	Whenever there is a failure of track circuit zone the clearance of the zone must be verified physically before initiating any movement over the zone. When there is a failure of point zone track circuit the concerned point may not operate from the VDU. In such case the points may be operated by crank handle/ by emergency point operation and on ensuring clearance, the movement over such point/points may be initiated.

AXLE COUNTER	Multi section digital axle counter (MSDAC) is provided for all lines in Automatic Block sections. During failure, the procedure as laid in 12 of Appendix-B for resetting of the MSDAC. High Availability SSDAC (HASSDAC) is provided between KTV-MVW. During failure resetting procedure will be adopted as per SWR (APP-B). If the axle counter indication does not appear 'GREEN & continues to show 'RED' condition after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SSE (signal) for rectification.
RECEPTION OF TRAIN ON OBSTRUCTED LINE	Whenever trains are to be admitted on blocked line it is necessary that the train is piloted in by a written authority T/509 given by the SM on duty and delivered by a competent Railway servant to the Loco pilot of the train. Calling on signal may be taken off. (Refer GR 5.09 & SRs there to)
RECEPTION OF A TRAIN NON-SIGNALLIED LINE	During failure of track circuit of berthing portion of the line, clearance of line must be verified physically before initiating piloting IN or OUT as the case may be. The responsibility of verification of the clearance of the track circuit zones lies with the SM on duty operating the VDU.
DEFECTIVE SIGNALS	When signals become defective, the procedure laid down in GR 3.68 to 3.81 & 9.12 to 9.14 and SR thereto shall be followed.
DEFECTIVE INTERLOCKING	When interlocking becomes defective the station master on duty shall be responsible to personally supervise the setting, clamping and padlocking of all required facing and trailing points with crank handle for admission of all trains vide SR 3.69.01 & 3.69.03(c).
DEFECTIVE DAMAGED POINTS	When points become defective, the signals controlling these points shall be considered as defective and vice-versa and action taken as mentioned in Appendix-B.
Block Instrument (KTV-MVW)	In the event of partial/total failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer SR 6.02.03 & 6.02.06)

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

Motor trolleys are to run in accordance with rules laid down in SR 15.25.08. Material lorries will Work in accordance with SR (Refer SR 15.27)

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

(ii) Motor trolleys / Tower wagon / material lorries are not likely to actuate the axle counter Correctly.

(iii) In all other respects the Working of a light motor trolley shall confirm to the rules laid down for Ordinary trolleys while running without block

protection and to those laid down for motor Trolleys while running under block protection or following another light motor trolley.

7. BLOCKING OF THE LINES:

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 arrival of a train at the station the points at either end on single line section should be immediately set against the block line except when shunting or any other movement is required to be done immediately in that direction on that line.

A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23 and SR5.23.01]

A. SECURING OF VEHICLES: -

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

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

B. ALTERATION OF POINTS TO A CLEAR LINE WHENEVER A RUNNING LINE IS BLOCKED:

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

If all the lines at a station happen to be blocked when 'Line clear" has been granted to a train, the points should be set for the line occupied by a stable load or a goods train in that order, so that in case of any mishap the chances of causalities. While doing so points may be set for a loop occupied by a train, if any, whose engine is facing the direction of approach of the incoming train rather than for a loop occupied by a train whose passenger coach will in case of collision receive the impact. (Refer G&SR 3.51.06)

C. LOADING AND UNLOADING OF VEHICLES ON RUNNING LINES :

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

8. SHUNTING:

GENERAL PRECAUTIONS:

Shunting will be carried out at the station in accordance with General Rule and

relevant Subsidiary Rules and Block working Manual [Refer GR 3.46, 3.52 to 3.56, 5.13 to 5.23, 8.09 to 8.15]. The SS/SM on duty is authorized to supervise shunting operation. Normally shunt, back shunt, shunt below starters and intermediate starter signals shall be used for shunting operations. The official supervising the shunting shall ensure the correct setting, clamping and padlocking of points in case of Non-Signaled movements.

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

NOTE:

1. Shunting towards automatic block system refer GR 5.13, 5.14, 5.16, to 5.23 with SR there to and refer BWM 7.18, 7.19, 7.20 and 7.21.
2. For any non-signaled movement physical verification of the clearance of the crossover points shall be ensured by the Train Manager/SM on duty for supervising shunting operations.

a) SHUNTING IN FACE OF AN APPROACHING TRAIN:

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

b) PROHIBITION OF SHUNTING, SPECIAL FEATURES IF ANY:

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

(ii) For shunting in both end of the yard, Engine should be leading towards the falling gradient.

iii) While shunting on gradient towards PDT end, an engine is to be attached towards the falling side of the gradient.

c) SHUNTING OUTSIDE STATION SECTION:

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

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

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

(d) Refer block working manual 7.18 to 7.21 for shunting towards automatic block section.

d) SHUNTING WITHIN STATION SECTION :

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

e) SHUNTING IN THE SIDING TAKING OFF FROM THE STATION YARD :

While performing shunting in the sidings, where shunt signals are not provided should be authorized by issuing T/806 clearly mentioning the limits up to which shunting is permitted as also the lines, occupied in shunting. The relevant provisions of GR 5.14 and SR thereto shall be meticulously followed.

f) AUTHORITY FOR SHUNTING OPERATIONS:

Shunt Signals are provided for shunting purpose. If Shunt signals fails or shunting have to perform at location where shunt signals not provided SM on duty shall issue written shunting authority on form T/806 to the Loco Pilot

through Train Manager of the train. In T/806, it is required to mention clearly the limits up to which shunting is permitted as also the lines, occupied in shunting. The relevant provisions of GR 5.14 and SR thereto shall be meticulously followed.
This Memo shall be withdrawn whenever shunting is to be suspended for reception and Dispatch of train if the line on which shunting is performed is not isolated. After Shunting is completed the order shall be collected from the loco pilot cancelled and Pasted with the record foil as per SR 5.13.02.

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

(a) **The rules to be observed in the event of abnormal conditions in Automatic block section:**	
i) During failure of all or series of signals in the Automatic Block System (Double Line) likely to last for some time and cause serious delay while means of communications are available.	Refer G&SR 9.12.01.
ii) During Failure of all signals likely to last for some time and cause serious delay when no means of communications are available.	Refer G &SR 9.12.02.
iii) Working of trains under Automatic Block System (Double Line) during obstruction of one line when signals are operative and communications are available.	Refer G&SR 9.12.03.
iv) Procedure for working trains under Automatic Block system (Double Line) during obstruction of one line when no means of communication are available.	Refer G &SR 9.12.04
v) Working of trains under Automatic Block System (Double Line) during failure of the means of communication when signals are operative.	Refer G & SR 9.12.05
vi) Procedure for working of trains under automatic block system (single line) during suspension of the panel working and when no means of communication are available.	Refer G &SR 9.12.06
vi) Procedure for working of trains under automatic block system (single line)during suspension when direction of traffic cannot be established but line clear can be obtained from the block station in advance by any of the communication given in SR 9.12.07.	Refer G &SR 9.12.07
viii) Working of trains on the obstructed line in case of obstruction or accident in automatic block signaling section.	Refer G & SR 9.12.08.
ix) Failure of axle counter of Automatic block section	Refer Para No. 12 of Appendix B
x) Procedure when semi-automatic stop signal is 'ON'.-	Refer GR 9.14 and SR there to
x) Failure of MTRC	NIL
(b) The rules to be observed in the event of abnormal conditions in absolute Block system.	

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

i) During partial interruption / failure of electrical communications instrument.	During partial interruption of communications trains shall be worked in accordance with BWM 5.16 & 5.23 &SR 6.02.06.
ii) The Authority to proceed in to the occupied block section in case obstruction of line or accident etc.	Whenever it becomes necessary to send a train into the block station already occupied by another train or due to accident, trains shall be worked in accordance with SR 6.02.05. The authority to proceed shall be block ticket (i.e., T/A- 602) as per SR 6.02.05.
iii) Total Failure of communication	In the event of total failure of all communications, trains shall be worked in accordance with provisions of SR 6.02.03 in double Line. During Partial interruption of communications the Rules to be followed as per SR 6.02.06.
iv) TSL working	GR 6.01 and SR 6.02.01 shall be followed.
v) Dispatch of trains under authority to proceed without Line clear to assist crippled train	Rules and regulations for working trains on an obstructed line in case of obstruction or accident on the authority of block ticket (T/A-602) when communications are available shall be followed in accordance with the provisions of SR 6.02.05.
vi) Trains delayed in block section.	When a train carrying passenger does not arrive with in '10' minutes or a goods train within 20 minutes after allowing for its normal running time from the station in rear the Station Master at the station in advance shall immediately advise the station in rear and the Section Controller on duty of this fact. The procedure laid down in GR 6.04 and SR thereto shall be followed.
vii) Failure of axle counter block / BPAC:	Refer Para No.9 in Appendix 'B' of this SWR to be followed.

(c). <u>Procedure for emergency operation of Points</u> :

i) The detailed procedure for emergency crank handle operation of motor operated points are mentioned in Para No. 5.3, 6 &7 of Appendix 'B'.

ii) Procedure for Emergency operation of point with axle counter/track circuit failure are mentioned in Para No. 5.2 of Appendix 'B'.

(d) <u>Certification of clearance of track before "calling on signal" operation is initiated</u>:

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.

(e) <u>Reporting failure of points, Track circuits / Axle counters and interlocking</u>:

i) Whenever there is a failure of points, track circuits / axle counters or any other interlocking gear at the station the failure should be reported

by SM on duty to the concerned signal maintenance staff on duty responsible for attending the failure and only after receipt of the written memo from the Signaling Maintainer for rectification of the fault, SM should restore the normal working.

ii) The entries in failure register to be done with message to the Section Controller.

10.0 ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-'E')

11.0 FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG :

Placing of detonators during foggy weather is dispensed, since the station is equipped with Automatic signaling territory and double distant signals (KTV-MVW) vide SR 3.61.01(a), note (i) and (ii) respectively.

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

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

APPENDIX 'A'

WORKING OF LEVEL CROSSING GATES

NIL

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

APPENDIX 'B'

APPENDIX 'B' TO STATION WORKING RULES OF KOTTAVALASA STATION

1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:

This is a 'SPL' class station provided with Standard–III interlocking. The station is provided with Route setting type Electronic Interlocking between points, signals, track circuits and other signaling gears. The Station is equipped with Multiple Aspect Colour Light Signaling. All points and Signals etc. are power operated through a central Visual Display Unit (VDU) installed in the SS/ 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, Siding & other controls etc. A Mimic yard diagram based on SI plan no. SI/23101 Alt-'N' 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, Crank Handles and Siding Controls, etc. The SM of a station (hereinafter referred als**o operator**) required to be familiar on the specific station's SWR (station working rules).

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

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

3.1 DUAL VDUs – MODE OF SELECTION:

The privilege has been given to the operator for controlling the station through VDU-1 or VDU-2 by selection through switch provided on the SM's table.
The operator VDU is having controls to operate the field gears through the Mimic diagram. A Mimic panel diagram displayed on the operator VDU is an exact replica of yard that suits SI plan.

4. ICONS AND INDICATIONS PROVIDED ON THE VDU:

In addition to mimic yard diagram including signal, points, track circuit, Axle counters, sidings as indicated in the WRD, various other ICONS and indications

have been provided on the VDU. A brief description of the same are described below.

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1.	PC Control	Yellow light when Key is 'ENABLE'.	Ensures operation of VDU by authorized person	Protected by pass word
2.	---	Emergency Route release – UP & DN	Flashing indication appears when Emergency route release operation is Initiated.	For each operation concerned counter shall register one count higher.
3.	Emergency point operation key	Yellow light when key is 'IN'. Yellow light indication appears showing request for Emergency point operation is acknowledged.	Ensures emergency point operation by authorized person	Protected by Pass word. For each operation concerned counter shall register one count higher.
4.	Point failure Ack. button	Red	Flashing indication appears when any point fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement, buzzer stops. After verification at site inform S&T staff immediately if failure persists.
5.	Signal failure Ack. button	Red	Flashing indication appears when any signal fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement, buzzer stops. Inform S&T staff immediately.
6.	CH-1,CH-2, CH-3, CH-4, ..., buttons	Yellow lamp indicates 'KEY IN'. Red lamp indicates ' CH LOCKED'	In normal condition yellow lamp will be lit. Whenever the crank handle is locked in route or otherwise red indication will glow.	

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

SN	ICONS	INDICATIONS	FUNCTIONS	REMARKS
7.	'UP Train Entering Section' muting button(MVW)	Yellow – acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	
8.	DN Block release button(MVW)	Yellow– Prepared for Block release.	On getting indication SM shall left click on the button icon which shall release block handle.	After complete arrival of train this will be activated.
9.	Line Block button	Red when blocked	SS/SM shall point the curser on the icons provided on the berthing track and right click. One drop menu will appear indicating line blocked and un-blocked, SS/SM has to select the required menu.	When line block is selected the concerned button on the particular line turns to RED.

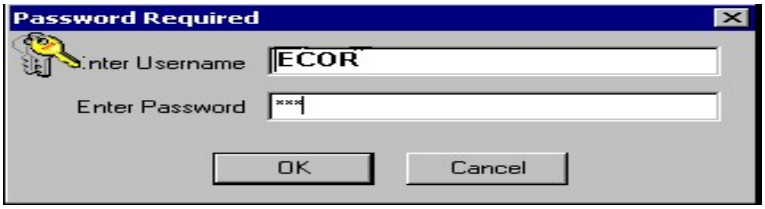
4.1 ELECTRONIC INTERLOCKING (E.I) SYSTEM INDICATIONS:

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

4.2 OPERATION PROCEDURE OF SS/SM's KEY :

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

(S PRABHU) (M MISHRA)



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

4.3 OPERATION AND INDICATION OF POINT:

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

POINT-51
Normal
Reverse
Emergency Normal
Emergency Reverse

4.3.1 REVERSE TO NORMAL OPERATION:

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

4.3.2 NORMAL TO REVERSE OPERATION:

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

4.3.3 POINT INDICATIONS:

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

4.4 PROCEDURE FOR SETTING OF ROUTES AND TAKING OFF SIGNALS:

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

SIGNAL S1
S1 – S7 (ORL)
S1 – S7 (ML)
S1 – S9
S1 – S11
C1 – S7
C1 – S9
C1 – S11
MAIN SIGNAL
CANCEL MAIN
ROUTE RELEASE

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

4.4.1 SETTING A ROUTE AND ITS INDICATIONS:

To set a route of a signal, click on a possible route of the signal, after doing so the route gets initiated & Red-flashing indication will appear on the replacement track of the signal. Point operation is initiated as per the requirement of the desired route and Normal/ Reverse set indications will starts flashing if favorable point detection is not available. After setting of points in the route, overlap & isolation flashing indication will be replaced by steady indication and a complete yellow 'Route set' indication will appear from the replacement track of the signal to the last track of overlap section of the route. Also the points lock indication will appear. A Point locked can be ensured from the Red Steady indication will appear near the point. Finally a Route locked Yellow Steady indication will appear on the immediate rear of the signal. Now, the signal will be Taken-off. The yellow route set indication will turn to red when different track circuit portion within the route is occupied during passage of a train.

4.4.2 SHUNT SIGNAL OPERATION:

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

4.4.3 CALLING ON SIGNAL OPERATION:

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

provided below starter and intermediate starter signals will clear without any time delay.

4.5 CRANK HANDLE CONTROL OPERATION:

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

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

CRANK HANDLE CH1
Transmit Control
Release Control

To Transmit the Crank Handle KEY to the field personnel SM on duty has to click transmit control menu. After transmission the 'KEY IN' indication will starts flashing, now the KEY can be extracted from the RKT at site. After extracting the key from the RKT, the 'KEY IN' indication will disappear. When the Manual point operation is over, after putting the Siding control key in the RKT, 'KEY IN' flashing indication will appear on the VDU, Now the SS/SM on duty has to Release the control for the Steady indication by clicking release control menu.

4.6 OVERLAP TIME RELEASE (WHITE LIGHT):

Separate indications (White Light) for each overleap 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 CANCELLATION 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 click in the left button on the mouse a pop-up menu will appear. Click on the cancellation menu (Main/ Calling on) of the concerned signal, the

signal will immediately go to 'ON' aspect, after doing so click on the Route release menu the route locked indication will starts flashing for 120 sec & the Emergency Route Release Indication (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 counter. 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 Route cancellation along with the latest counter no. in a register.

5.2 EMERGENCY OPERATION OF POINTS:

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

Note: Before resorting to this operation 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.

5.2.1 EMERGECNCY NORMAL OPERATION OF POINTS:

Before doing the emergency operation the Emergency Point Operation Key is to be made "KEY IN" by clicking the 'KEY IN' menu. The user name and password is to be logged in. The user name of this station is 'ECOR' and password of this station is KTV. Track the pointer to 'EMERGENCY NORMAL' menu and click. A Normal flashing indication will appear and the indication will be steady after the point is set to Normal. This action will be recorded in a counter. 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 no. in a register.

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

5.2.2 EMERGENCY REVERSE OPEATION OF POINTS:

Before doing the emergency operation, an Emergency Point Operation Key is to be made 'KEY IN' by clicking the 'KEY IN' menu. The user name and password is to be logged in. The user name of this station is 'ECOR' and password of this station is KTV. Emergency reverse menu to be clicked. Track the pointer to 'EMERGENCY REVERSE' menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to reverse. 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 no. in a register.

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

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

On clicking, the appearing pop-up menu gives details of the possible commands on the Crank Handle.

CRANK HANDLE CH1
Transmit Control
Release Control

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

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 no. in a register.

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

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

CRANK HANDLE CONTROLS FOR EMERGENCY OPERATION OF POINTS			
NO.	**CRANK HANDLE**	**CONTROL POINTS**	**PROVIDED IN**
1	CH-1	51 A/B, 73 A/B	IN UP CH LOC- 2, 3 TOWARDS KPL END
2	CH-2	53 A/B, 59 A/B	IN UP CH LOC-3 TOWARDS KPL END
3	CH-3	55 A/B, 57 A/B	IN UP CH LOC-3 TOWARDS KPL END
4	CH-4	63 A/B	IN UP CH LOC-1 TOWARDS KPL END

5	CH-5	65 A/B	IN UP CH LOC-1 TOWARDS KPL END
6	CH-6	75 A/B	IN UP CH LOC-1 TOWARDS KPL END
7	CH-7	77 A/B, 79 A/B	IN UP CH LOC- 2 TOWARDS KPL END
8	CH-8	52 A/B, 60 A/B, 72	IN DN CH LOC-2 & 5 TOWARDS PDT END
9	CH-9	54 A/B, 58 A/B	IN DN CH LOC-4 TOWARDS PDT END
10	CH-10	56 A/B, 76 A/B	IN DN CH LOC-4 TOWARDS PDT END
11	CH-11	78 A/B, 80	IN DN CH LOC-3 TOWARDS PDT END
12	CH-12	82 A/B, 84	IN DN CH LOC-1 TOWARDS PDT END
13	CH-13	68 A/B	IN DN CH LOC-1 TOWARDS PDT END
14	CH-14	62 A/B, 66 A/B	IN DN CH LOC-2 TOWARDS PDT END
15	CH-15	64	IN DN CH LOC-2 TOWARDS PDT END
16	CH-16	70	IN DN CH LOC-5 TOWARDS PDT END
17	CH-17	61 A/B	IN UP CH LOC-4 TOWARDS KPL END

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

When both the EI systems fail to operate due to power failure or whatever the reason, the SM on duty shall turn the key (ECH) to right provided in the key box fixed on the top of the counter box. By resorting to this, all the crank handles are released at a time and the SM on duty can set the required point/points through crank handles manually by extracting the key /keys from EKTs provided in the location boxes. The signaling staff i.e., JE/SSE/sig or ESM shall be intimated immediately regarding the failure for rectification of the same.

8. LINE BLOCK AND UNBLOCK (REMINDER COLLAR):

When SM on duty requires demarcating a berthing/stabling line as BLOCKED / FREE line he shall adopt the following procedure:

8.1 LINE BLOCK:

To set the 'LINE BLOCKED', the SM on duty shall select "L. No._ BLOCK" command using the left mouse button, after selecting the Line Block that particular line will be blocked for all the possible Track circuit section on that particular line. The 'TRACK BLOCK' yellow colour indication will be displayed after the successful application of such a blocking process on the VDU.

8.2 LINE UNBLOCK:

To release the set block of any particular line, the SM should select "L. No. UNBLOCK" command using the left mouse button. After selecting the "L. No._ UNBLOCK" that particular line will be available for the train movement.

9.0 PROCEDURE FOR RESETTING OPERATION OF LVCD (DIGITAL) AXLE COUNTER IN SECTION KTV-MVW.

High availability Digital Axle counters with dual detectors are provided on K.K Double line between KTV-MVW. The occupation and clearance of the axle counter

section are indicated on VDU by RED & GREEN light respectively. When after arrival of a train the LVCD Axle counter does not show clear indication and the 'Section Occupied' indication continues to glow SM on duty shall initiate resetting procedure for the LVCD Axle Counter, monitoring the Block section. Before initiating Resetting procedure SM on duty shall ensure that the train which has left arrived completely at receiving station and block section is clear [free] of trains. If the track indication of that particular block section is showing 'Red" then the following actions are to be performed by the SM on duty.

The SM on duty at KOTTAVALASA Station shall verify with on duty SM at adjacent station over phone and Press the reset button and turn and press the SM-KEY simultaneously in Reset box. This action will be recorded in a counter. The counter will increment the number for each and every such action and also, this number should be recorded by the SM on duty manually in a register.

The on duty SM shall inform the SM on duty at adjacent station to carryout aforesaid resetting procedure. After completing reset operation in both side "**PREP RESET"** indication will appear on Reset Box.

The Piloting In or out is mandatory for completion of Axle counter reset operation. Number changed for resetting, shall be recorded in the TSR, SM Diary and in the register meant for this purpose.

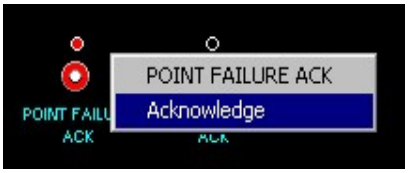
9. <u>SIGNAL LAMP FAILURE INDICATION AND BUZZER ACKNOWLEDGMENT</u>:

LED signal lamps have been used for all signals at this station. In case .Failure of LED signal aspect will be indicated by the appearance of 'RED' light on VDU along with audible buzzer, which can be acknowledged and muted by pressing the 'SIGNAL FAILURE ACKNOWLEDGEMENT' 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.

10.1 <u>POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND POINT FAILUREACKNOWLEDGEMENT</u>:

Whenever there is 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 can identify the defective point. After the failure is rectified, the flashing light above the 'POINT FAILUR ACK' button will disappear.

(S PRABHU) (M MISHRA)



10.2 SHOWING OF COUNTERS:

One counter icon has been provided on the VDU. When selected a drop down menu will appear indicating the following counters.

1. Emergency Route Release.
2. Emergency Point Operation.
3. Calling on counter (DN LINE)
4. Calling on counter (UP LINE)

When the pointing device is placed any one of the menu the latest counter number will pup-up on VDU.

11. TRACK CIRCUITS:

The following track circuits are provided in this yard.

PDT END:

6AT,6T,45AT,2AT,2T1,2T2,4AT,4T,47AT,49AT,49T,52AT,52BT,70T,70T1,64/66T,54AT,54/56T,58AT,58BT,60AT,72AT,60/72T,62/66T,62BT,56AT,76AT, 76BT, 68T, 78/80T, 78AT, 82/84T, 82AT,

BERTHING PORTION:

L1T1, L1T2, L1T3, 19AT, 38AT, L2T1, L2T2, L2T3,21AT L3T1, L3T2, L3T3, 23AT, 34AT, L4T1, L4T2, L4T3, 32AT, 25AT, L5T1, L5T2, L5T3, 30AT, L6T1, L6T2, L6T3, 28AT, L7T1, L7T2, L7T3, 31AT,26AT, L8T1, L8T2, L8T3,24AT,33AT, L9T1, L9T2, L9T3, 22AT,35AT

KPL & MVW END:

77BT,77/79T,79BT,73AT,73BT,75T,65AT,65BT,65T1,44AT,63AT,63BT,63T1,61AT,61BT,61T1,61T2,51AT1,51AT,51BT,53AT,53/55T,59BT,57/59T,57BT,55AT,50AT,50T, 48AT,3AT,3T,1AT,1T1,1T2,46AT,46T, 5AT, 5T, 5T1.

12. AXLE COUNTER:

12.1 FOR SEC: KTV-PDT AND KTV-KPL:

Auto block sections are provided with Multi section digital axle counters (MSDACs). The position of Auto signals and axle counters display is provided at SM room through separate monitors. “RED” indication is provided when train is occupied and train passes through other track sections corresponding track section will be shown “RED”

FOR SEC: KTV-PDT: Each line in the section is divided in to 5 track sections
FOR SEC: KTV-KPL: Each line in the section is divided in to 5 track sections

The position of the track section whether cleared or occupied are reflected in the monitor provided in the station master’s office which shows ‘Grey’ when the track section is clear and ‘RED’ when occupied.

(S PRABHU) (M MISHRA)

A Resetting arrangement for resumption of the system in case of failure of axle counter has been provided in the SM room after being assured by both SM that the last vehicle has arrived complete at the receiving station by exchanging Private Number, then resetting to be complied with.

Manual Reset of MSDAC:

Line verification Boxes for each line are provided at PDT, KTV and KPL. Upon receiving the train, KTV station master shall ensure complete arrival of the train physically and acknowledge the same to respective SMs of PDT & KPL through LV box. Similarly KTV SM will get acknowledgement from PDT & KPL for dispatched trains from KTV. After receiving LV indication SM KTV shall reset the corresponding failed track section through reset panel provided at SM room. Reset panel consists of SM key and respective track section reset button. SM shall press SM key and reset button simultaneously to reset the corresponding track section.

12.2 FOR SEC: KTV-MVW:

One pair of High availability Digital axle counter with dual detectors is provided between KTV-MVW on UP line one just beyond UP advanced starter signal no. 46 of KTV and another beyond UP Home signal track circuit of MVW.

One pair of High availability Digital axle counter with dual detectors is provided between MVW-KTV on DN line one just beyond DN advanced starter signal no. 26 of MVW and another at BSLB of KTV.

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

12.3 AUTOMATIC BLOCK SIGNALLING:

Section between KTV-PDT and KTV-KPL has been divided into a series of automatic signaling sections each of which is the portion of the running line between two consecutive stop signals and the entry into each section, which is governed by a stop signal.

SECTION	DIRECTION	STOP SIGNALS		CONTROLLED BY
KTV-PDT	UP LINE	UA855/13A,UA856/27A , UA857/33A, UA859/3A		49XT,U855/13XT, U856/27XT, U857/33XT, U859/3XT
	DN LINE	DA856/1, DA857/3, DA858/8A, DA859/8		D856/1XT, D857/3XT, D858/8XT, D859/8XT,44XT.
	MIDDLE LINE	DN	MDA855/16A, MDA857/2A, MDA858/6A, MDA859/10A	47XT, M855/26XT, M858/32XT, M858/1XT, 46XT
		UP	MUA855/26A, MUA856/32A, MUA858/1A, MUA859/4A	47XT, M855/26XT, M858/32XT, M858/1XT, 46XT
	KK LINE	DN	KDA855/12/1, KDA856/14/1, KDA857/17/1, KDA859/2/1	45XT, K855/12XT, K856/14XT, K857/17XT, 42XT.
		UP	KUA855/15/1, KUA857/1/1, KUA858/3/1, KUA859/5/1	45XT, K855/12XT, K856/14XT, K857/17XT, 42XT.
KTV-KPL	UP LINE	UA-847/9, UA-848/13, UA849/19A, UA850/31A,		U850/31AXT, U849/19AXT, U848/13XT, U847/9XT, 37XT
	DN LINE	DA-850/28A, DA-849/22A, DA-848/16A, DA-847/12A.		50XT, D850/28AXT, D849/22AXT, D848/16AXT, D847/12AXT
	MIDDLE LINE	DN	MDA-850/34A, MDA-849/22A, MDA-848/20, MDA-847/16	48XT, M849/15AXT, M848/14XT, M847/10XT, 39XT
		UP	MUA-850/28A, MUA-849/15A, MUA-848/14, MUA-847/10.	48XT, M849/15AXT, M848/14XT, M847/10XT, 39XT

12.4 DIRECTION SETTING PANEL FOR SINGLE LINE:

Direction of traffic for middle line & KK line towards PDT end and middle line towards KPL end is to be established by a pair of direction setting panels available at station masters room. For establishing direction of traffic PDT-KTV block section, KTV is the 'controlling station' side and PDT is the 'controlled station'. For establishing direction of traffic KTV-KPL block section, KPL is the 'controlling station' side and KTV is the 'controlled station'.

INDICATIONS:

a. Two groups of arrows are provided on the panel for each single line. One on either side, the other on each side pertaining to the block section on that side. Each group consists of two arrows-one for UP direction and other for DOWN

direction. Each arrow will be illuminated by white or red lights. White light appears when relevant block section is clear but changes to RED when either of the block section is occupied or there is an axle counter failure. Only the arrow corresponding to the direction of traffic established will be illuminated, the other arrow remaining is extinguished.

b. A white 'Signal Normal' lamp (W) for middle line as well as KK line on each half of the panel which is illuminated indicates that the signals of that side of the station for the middle line/KK line is at 'ON'.

c. A Green 'Permission from .....' Lamp (G) on the controlling half of the panel which when illuminated indicates to 'A' that 'B' has pressed the permission button on his panel and thereby permitting 'A' to establish direction of traffic from 'A' to 'B'. Under emergency operation, this green lamp will also be illuminated when 'B' presses emergency push button on the controlled half of the panel to enable 'A' to establish direction traffic 'A' to 'B'.

d. A digital counter on each half of the panel (C) is provided to record the number of emergency operations resorted to on that side of the panel. The SM who makes over as also who takes over charge shall record in the Train log register the number recorded by the digital counters.

CONTROLS:

Permission button: This is mounted on the controlled side of the panel, when it is passed at block station 'B' for granting permission to 'A' for establishing direction of traffic from 'A' to 'B' a green lamp indication will be illuminated on the panel at 'A'.

Direction Switch: UP/DN two position , direction switch (s) is provided on the controlling side of the panel for enabling 'A' to establish direction of traffic from 'A' to 'B' as may be required.

Emergency push button (RED): There are two emergency push buttons- one on the controlled half and the other on the controlling half of the panel. If on account of failure of Axle counter or for any other cause other than occupation of the block section between two block stations, it becomes necessary to change the direction of traffic already established when the direction arrow may show 'Red indication' emergency push buttons shall be pressed at both block stations and at controlling station the direction switch shall also be turned in conjunction to the required position. Each operation of emergency push button registers next higher digit on the digital counter of the respective half of the panel. Whenever such operation is resorted to the SM at both stations shall record the same in the register specially maintained for the purpose under his initial.

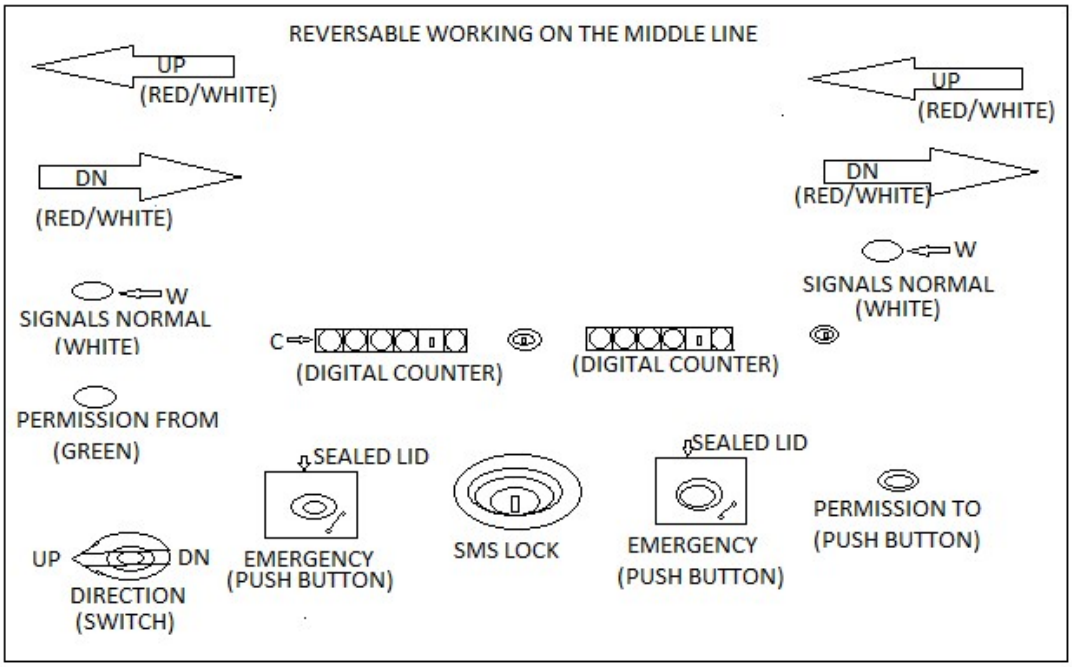
Station Master Lock UP key:

Whenever it is necessary to operate the panel, this key shall be inserted in the key-hole and turned. Immediately after completion of every operation on the panel, this key must be taken out and kept in the personnel custody of the station

master on duty so as to prevent inadvertent or unauthorized operation of various controls in the panel.

ESTABLISHING DIRECTION OF TRAFFIC:

For establishing direction of traffic , Rule No. 7.15 of BWM is to be followed.



MODE OF OPERATION:

1. Normal operation: Rule No. 7.16(1) of BWM is to be followed.
2. Emergency operation during track section failure: Rule No. 7.16(2) of BWM is to be followed.

3. Movement of trains: For movement of trains BWM 7.17 is to be followed.

4. Suspension and resumption of working of trains under automatic block system on single line: BWM 7.20 is to be followed.

5. Failure of indication on the panel: BWM 7.23 is to be followed.

12.5 STATION MASTER'S PANEL CONTROL KEY:

The panel is fitted with Station master Lock up key to prevent any unauthorized operation of the panel. The station master on duty is the only authorized person to operate the panel and the panel key must always remain in his custody vide SR 3.36.02 and GR 5.08. The key locks the panel board and no operations are possible. In case of emergency, signals can be put back to danger by operating concerned signal button and signal cancellation button without ASM's key also. However, the provisions of SR 3.36.02 shall be followed while replacing also.

(S PRABHU) (M MISHRA)

13. TAKING OFF CALLING-ON SIGNAL:

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

To take off Calling-on signal the train must come to stop at the foot of the home signal, occupying the track circuit (1AT, 3AT, 5AT, 2AT, 4AT, 6AT etc. as the case may be) in rear of the Home signal. For starter and intermediate starters, there is no time delay for clearance of calling signal. When a train occupies the calling on track circuit, a RED light strip will appear on the VDU. The particular route on which the train is intended to be received shall be set by selecting and setting desired route through VDU by SS/SMon duty. For all home signals the time delay is 60 seconds, the Calling-on signal clears i.e. white light glows at the concerned Calling-on signal on the VDU.

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

14. RELEASE/CANCELLATION OF ROUTE:

Normally when a train is received on any route or dispatched, 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 SM on duty intends to cancel the route set by him shall follow procedure for cancellation of route described in para 5.1 of APPENDIX-B above.

NOTE: UP and DN Calling-on signals and UP and DN Advanced starters are to be manually cancelled after the passage of the train to release the route.

15. 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 SS/SMshall follow para no. 5.1 of APPENDIX-B.

16. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

16.1 INTERLCOKING WITH HOME SIGNALS:

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

16.2 INTERLCOKING WITH ADVANCED STARTER SIGNALS:
FOR KTV-MVW SECTION:

The UP Advanced Starter Signal No.46 of KK line is electrically interlocked with respective DLBI of section KTV-MVW so that this Signal cannot be taken OFF until 'LINE CLEAR' received from MVW.

16.3 SUSPENSION OF LAST STOP SIGNALS:

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

16.4 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 SS/SMon 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:

i). 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. SR3.69.03(c)].

ii). 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.

16.5 PILOTING OF TRAINS - OUT OF STATION YARD:

When the starter signal and calling-on signal has become defective, the Station Master on duty shall advise them 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].

16.6 SHUNTING:

For back shunting individual shunt signal No.SH-7 (A-I), SH-9 (A-I), SH-11(A-I) towards KPL/MVW end and SH-8(A-H), SH-10(A-H), SH-12(A-H) towards PDT end are provided for shunting back to the station yard in desired direction. For taking OFF Shunt signals please refer Para no. 4.4.2 of APPENDIX-B.

17. 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 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.

18. 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.

19. LOCKING OF RELAY ROOM:

Custody of Relay room key and procedure for its handover and taking over between SM and S&T staff has to follow the procedure laid down in OM 2015, para no. 13.16 and sub paras there to. 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 (b) &©.

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

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

The tests, checks and replacements etc., shall confirm to the schedules of

maintenance as indicated in the Signal Engineering Manual as also as per the current and extant instructions/circulars on the subject.

21. RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

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

22. PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:

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

23. EMERGENCIES:

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

24. PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL POINTS AND USE OF EMERGENCY CRANKHANDLE:

1. Whenever a Signal or a Point become 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. 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.

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

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

5. 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.

6. 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.

7. 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:

25. TELECOMMUNICATIONS:

- The Station is connected to VSKP-WMY-DVD-VSP-NTPC-SCMN-KTV (VSKP Complex) Section control.
- KTV-PSA Section control.
- KTV-KRPU Section Control.
- Traction Power Control (TPC): VSKP-PSA and VSKP-KRPU.
- Traction loco control (TLC): VSKP-PSA and VSKP-KRPU.
- Auto Telephone (Rly).
- CUG Phone.

Magneto Telephone:

- Between SM's office and both side crank handle locations/goomties.

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

Block Telephone:

- SM – KTV office and MVW on Double line SGE type lock & block instrument.

Hot Line:

- SM-KTV office to adjacent stations (PDT, KPL & MVW)

NOTE

1. For obtaining line clear VHF should be used as a last alternative and not as a sole means of communication.

2. VHF & Walkie-Talkie sets should not be used for unnecessary discussion with Loco pilot Guards and any other staff.

26. POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS:

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

i) Normal supply from UP AT/ DN AT connected to OHE traction distribution [230V50HZ].

ii) Stand by supply – From AP Transco [Single-phase 230V-50HZ].

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

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.

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

iv) Normally the switch will be kept towards UP AT/DN AT position. Whenever power block is to be given on the line the on duty SM on duty must ascertain that power is available on the other AT and change over the switch to the desired position.

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

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

ii) 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 AT.s and make an entry in the station dairy duly initiating for rectification of failure if any.

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

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

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

In the event of failures all the sources of 230V 50HZ AC supply, the 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/Equipment.	Visual Indication	Audio Indication	Action to be taken by SM on duty
A	-	50% DOD	Red	Alarm	Alarm shall be acknowledged by SM on duty.
B	-	60% DOD	Red	Alarm	-do-
C	System shutdown	70% DOD	Red	Alarm	Signal feed cut off and all DC-DC converters to Work. Audio alarm 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.

STATION WORKING RULES OF KOTTAVALASA (KTV) STATION

APPENDIX 'C' TO STATION WORKING RULES OF KOTTAVALASA STATION

ANTI COLLISION DEVICE [[RAKSHA KAVACH]

.....NIL.....

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

STATION WORKING RULES OF KOTTAVALASA (KTV) STATION

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

DUTIES TO BE PERFORMED BY THE STAFF AT KOTTAVALASA STATION:
STATION MASTER (IN CHARGE):

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

i) He shall come on duty after taking complete rest and shall not perform his duty under the influence of liquor, drugs or intoxicants.
ii) He shall handle the block instrument himself when on duty and shall not permit any unauthorized person to manipulate or handle the block panel/block instrument and block telephone.
iii) He shall keep the station master's control keys of block instruments in his personal custody whenever, he is required to leave his office even for a short duration.
iv) He shall maintain TSR and other connected record/documents in good Shape and ensure that all entries are completed and are up to date.
v) He shall attend the control and given arrival departure of trains promptly and shall carry out instruction given by superiors provided these do not Violate safety rules &procedures.
vi) He shall inform the Technician/JE/SE (Sig) through a written message, any failure of signal or block working etc. and invariably enter these failures in Signal Failure Register.
vii) In case of any accident, he shall inform the Section Controller & Station Manager/Station Superintendent immediately. He shall give all the information available with him in regard to the nature, places, cause and assistance etc. in respect of the accident.
viii) He shall communicate reasons for late start of outgoing trains and late arrival of incoming trains to control.
ix) He shall keep his reference books (trains working manuals) up to date, Posted with latest correction slips and shall keep himself fully conversant with the extant rules. He shall keep his books readily available for Inspection when asked to do so.
x) He shall not absent himself from duty without prior permission of his superiors. He shall not leave his duty unless properly relieved by his reliever and shall not exchange his duty without prior permission of his superiors.
xi) He shall not consider himself relieved of duty unless, he has completed transactions of trains for which he has given /obtained line clear till the complete arrival of such trains.
xii) He shall always obey the lawful orders of his superiors so long as they do not contravene any of the extant rules in force.
xiii) In case of any abnormal working, he shall also perform the duties assigned to VDU ASM/SM.

SS/SM/VDU:

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

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

STATION WORKING RULES OF KOTTAVALASA (KTV) STATION

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.

TRAFFIC POINTSMAN/TOKEN PORTERS:

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

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

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

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

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

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

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

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

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

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

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

STATION WORKING RULES OF KOTTAVALASA (KTV) STATION

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.

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

STATION WORKING RULES OF KOTTAVALASA (KTV) STATION

APPENDIX 'E' TO STATION WORKING RULES OF KOTTAVALASA STATION

ESSENTIAL EQUIPMENT

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

Sl. No	Description	Station
1	Detonators	10
2	Battery operated LED based flashing Hand Signal lamps	3(1 spare)
3	Hand Signal Flags	3(1spare)sets
4	Skids	12
5	Clamps with Pad locks	18
6	Safety chains with Pad locks	16
7	Fire & Sand buckets	6
8	DCPT Fire Extinguishers	2
9	First Aid Box	1
10	Stretcher	1
11	Blanket	1
12	Iron skids	12

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

STATION WORKING RULES OF KOTTAVALASA (KTV) STATION

APPENDIX 'F' TO STATION WORKING RULES OF KOTTAVALASA

Rules for working of DK Station, Halts, IBH, IBS and outlying sidings.

.....NIL.....

(S.PRABHU)
DSTE/GSU/WAT

(M.MISHRA)
SR.DOM (G)/WAT

STATION WORKING RULES OF KOTTAVALASA (KTV) STATION

APPENDIX- 'G'

KOTTAVALASA STATION

RULES FOR WORKING OF TRAINS IN
ELECTRIFIED SECTIONS:

DETAILS OF WORKING RULES OF 25KV AC
TRACTION.

EAST COAST RAILWAY WALTAIR DIVISION

APPENDIX- 'G' TO

SWR OF

KOTTAVALASA

(DRG. No. WAT/TRD/SWR/KTV/)

APPENDIX-G

STATION WORKING RULES FOR 25 KV A.C ELECTRIC TRACTION

KOTTAVALASA STATION

1. **GENERAL & SUBSIDIARY RULES:**

i) The rules applicable to Electrified Section have been given in Chapter XVII of the General Rules and in the Subsidiary rules made hereunder for Electric traction. The General principles governing operation and maintenance of Traction Overhead Equipment, Electric Locomotives, Signal & Telecommunications installations have been given in the A.C. Traction Manual. These rules books and an extract of the relevant paras of A.C. Traction Manual, shall be kept in each station and yard office and all the staff dealing with safe working shall make themselves thoroughly familiar with the same (GR17.01).

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

2. **GENERAL SAFETY PRECAUTIONS**:

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

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

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

i) A Diagram No.**WAT/TRD/SWR/KTV/306/16**indicating schematically the lines which have been equipped with for Electric traction is exhibited. The diagram also indicates different electrical stations (Sectors, Sub-Sectors or Elementary sections) the Controlling Switches (Isolator Switches or Interrupters) Insulated Over laps and Section Insulators where the over head equipment is electrically separated. The limits of an Electrical section (Sub-Sector or Elementary Section) and are indicated by relevant section. A copy of this diagram is also enclosed with these special working rules and will form part of thesame.

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

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

5. **OPERATION OF SWITCHES:**

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

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

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

Sl. No.	Isolator No.	Loc. No.	Sl. No.	Isolator No.	Loc. No.
1	SM/210	854/9/1N	9	SM/218	853/8B
2	SM/211	854/6	10	SM/219 (N/O)	852/22K
3	SM/212	854/4A	11	SM/220	852/20A
4	SM/213	853/35A	12	SM/221	852/9A
5	SM/214	853/17B	13	SM/222	852/8K
6	SM/215	853/30A	14	SM/223 (N/O)	852/4K
7	SM/216	853/10A	15	SM/224	851/32A
8	SM/217	853/8B/1	16	SM/225	851/30A

6.POSITION OF SWITCH HANDLES:

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

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

8.PROCEDURE AND PRECAUTIONS FOR OPERATING ISOLATORS:

The procedure for Operation of Isolator Switches have been given in and GR 17.04.15 and SR 17.04.14 (b) which must be rigidly observed.Isolator switches may be opened only after ensuring : -

A) If the Isolator switch is on the main line that the adjacent interrupters on either end of Isolators switch have beenopened.

B) If the Isolator switch is controlling supply to yard lines, that either the Elementary Section controlled by the Isolator switch is free of raised pantographs of Electric Locomotives, on the Interrupters controlling the supply to the yard lines in question are open(GR.17.04.15).

9.**POWER BLOCKS**:

i) The detailed procedure for obtaining Power Block has been given in (GR.17.04.02, 17.04.03 & 17.04.04) ACTM 20603, 20604, 20611, 20612 & 20613 which must be rigidly followed except in case of emergency.

ii) The sequence of switching operations for granting and canceling the Power block for particular section, are included in the Annexure. These shall be strictly followed by all staff. Failure to follow the sequence indicated, is likely to lead to dangerous consequences. When any isolator switch is changed from its normal position, for staff to work in over head equipment, a danger board shall be exhibited on the switch with the caption "DANGER MEN WORKING". An adequate number or such Danger Boards have been provided at each stations.

10. **PROTECTION AT THE TIME OF POWER BLOCK**:

i) All sections over which a power block has been granted shall be protected against the entry of Electric Locomotives with pantograph raised from either end during the period (GR 17.04) and ACTM 20620, 20621 to 20627 Vol.IIPt.I strict enforcement of longitudinal and transverse, protection as

per the Annexure attached shall be ensured before imposing power block. If there is / are locomotive on the section over which the power block to be given, the Loco Pilot of such, locomotives shall be given a memo by the Station Master on duty or authorized Traction staff to lower the pantograph and not to raise it until further instructions and an acknowledgement shall be obtained. The Loco Pilots shall not be given instructions to raise the pantograph still the power block iscancelled.

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

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

Sr.DOM/WAT **DEE/TRD/WAT**

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

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

14. MOVEMENT OF DIESEL ENGINES OR TRAINS HAULED BY SUCHENGINES

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

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

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

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

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

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

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

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

17.**CRANES**: No crane shall be worked on or near Traction over head equipment, unless such equipment is first made dead and earthed and authorized representative of the OHE section is present (SR. 17.04.17(a) & (b))

18. **WORK ON ROOF OF ROLLING STOCK:**

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

19. **BLOCK INSTRUMENTS OR ANY OTHERELECTRICAL,SIG.EQUIPMENT:**

The Station Master or cabin man on duty must always watch for any unusual working in the Block Instrument or any other Signaling equipment which may arise due to voltage induced from the Traction system. The block instrument or the signaling equipment must be suspended whenever there is any signs of unusual working and the nearest Signal & Telecom Maintenance Inspector contacted to inspect and certify the same. In the event of break of catenary, the Station Master must immediately check up whether all block and Morse signaling equipment are working normal before permitting any trainmovement

Sr.DOM/WAT **DEE/TRD/WAT**

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

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

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

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

24. **AMENDMENTS FOR SUPPLEMENTARY CORRECTION SLIPS**:
Any amendment to these working rules or any of the Annexure will be notified by Correction slip to the Station Working Rules. The correction slip will be serially numbered and it is the responsibility of SM in charge of a station to bring the contents to the notice of the staff concerned and take their acknowledgement.

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

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

Sr.DOM/WAT **DEE/TRD/WAT**

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

A) FOR ALL STAFF :

(a)DO(s) :

1. In case of fire on Electric Traction equipment orwires
   - i) Inform Traction PowerController.
   - ii) Extinguish Fire by Special extinguishers ifavailable.
   - iii) Ensure no water jet is used under anycircumstances.

2. Anything unusual on Traction wires or electric locomotives inform Traction Power Controller of nearest StationMaster.
3. In any emergency speak to Traction Power Controller on emergency Telephone system (Sockets for connecting emergency Telephone) are provided at interval of approximately every Kilometer and defection to nearest socket is indicated on OHEMast.

(b)DON'T(s):

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

B. FOR RUNNING STAFF:

(A) DO(s)

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

(B) DON'T (s):

1. Do not lift or raise your tools towards traction wires, (keep the tools in their respective position immediately afteruse).
2. Do not load coal on the engine tender to a height more than 4 mtrs.aboveraillevel.
3. Do not take electric locomotive with raised pantograph to any unwired line, power block working limit or near the section insulators at the end of section under powerblock.
4. Do not climb on the locomotive (of any type) on the engine tender for any purpose, while under traction wire unless power is cut-off and permit to work obtained (for watering, use the water column from the ground with the special device provided for this purpose and open tank over by the special deviceprovided).
5. Do not place a steam locomotive with chimney directly opposite a traction mast or under any insulator or underbridge.
6. Do not allow long articles like fixing rod, shovel or any other thing to

protrude above the engine while on electrifiedtracks.

7. Do not direct any jet or spray towards the traction wires (Jets of water, if necessary may be used horizontally of size the safety zone of 2 Mtrs (7feet).

Sr.DOM/WAT **DEE/TRD/WAT**

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

1. Ensure all staff are conversant with safetyprecautions.
2. Report defects in traction wires or any electric locomotives of Electric Multiple Unit promptly to the traction powercontroller.
3. Keep sufficient number of button collars and ensure safety understand theiruse.
4. Ensurefittingofbuttoncollarstothepointsandsignalbuttonswhichgiveacce ss
   to selection under power block.
5. Observe procedure given in Station Working Rules for 25 KV A.C. Electric Traction while operating Isolatorswitches.
6. Ensure safe custody of isolator switchkeys.
7. Ensure that traction power staff protect sections from all directions by banner flag during powerblock
8. Suspend working of block and signals if single of unusual working are noticed alwayscheck block instruments and signaling equipment seen by breakdown in traction wiresoccurs.

(B) DON'T (s) :

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

NOTE : This Appendix-G supersedes the previousappendix-G.

Sr.DOM/WAT **DEE/TRD/WAT**

APPENDIX-'G'

EAST COAST RAILWAY

STATION WORKING RULES FOR 25 KV AC ELECTRIC TRACTION FOR *KOTTAVALASA STATION*

1. These rules shall be read along with the main working rules andappendices.
2. These rules apply only to Electric Trains or Electric Engines considered as such & indicate the protection required to prevent them from entering a SECTOR, SUB-SECTOR OR ELEMENTARY SECTION over which a Power Blockexist.

S. No	Description of Electrified Section	Steps or Precautions to be taken during Power Bock in respect of Electric Locos Hauling Trains or running Light or Standing with Pantograph raised		Sequence of Switching Operation for granting Power Block	Sequence of Switching Operation for Restoring Power
		Longitudinal Protection	Transverse Protection		
1	2	3	4	5	6
A	**SECTOR**				
I	**Sector between Simhachalam North/TSS to Kantakapalli/SP on Up Line, Middle Line & Down Line and to Kottavalasa/SP on KK Line** **Up Line:-** E/Sections X-171, X-172, 20501, 20503, 20505, 20507, X-340, 21501, 21503 and 21505. **Middle Line:-** E/Sections 20301, 20302, 20303, 20304, 20305,	1)Movement of Electric Trains / Electric Locos shall not be permitted into sections Pendurti - Kottavalasa - Kantakapalli and Kottavalasa-Mallividu on Up Line, Middle Line, Down Line & KK Line. 2)Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on Up Line, Middle Line, Down Line and KK Line. 3)Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Up Line, Middle Line and Down Line. 4)Line clear shall not be granted / obtained to / from Mallividu for Electric Trains / Locos KK Line. 5)Concerned Reception, Dispatch and Shunt Signals	Nil	1)Ensure BM-226, BM-227 are in open position at Kantakapalli/SP. 2)Ensure BM/01 is in open position at Kottavalasa/SP. 3)Ensure SM/85 at Loc. 870/27A at Simhachalam North Yard is in openposition. 4)Ensure SM/40 at Loc. 870/24A at Simhachalam North Yard is in openposition. 5)Ensure SS/112 at Loc. 869/46X at Simhachalam North Yard is in open position. 6)Ensure SS/101 at Loc. 868/1001 at Simhachalam North Yard is in open position. 7)Ensure SM/180 at Loc. 869/1001A at Simhachalam North Yard is in	

	21701, 21702, 21703, 21704, 21705 and 21706.	shall be kept at 'ON'.		open position. 8) Ensure SS/170 at Loc. RY/27 at Reception Yardof Waltair Marshalling Yard is in open position.	
	Down Line:-				
	E/Sections 20202, 20204, 20206, 20208, 22002, 22004, 22006, 22008 and 22010.			9)Open CB/92 at Simhachalam North/TSS.	9)Close CB/92 at Simhachalam North/TSS.
	KK Line:-				
	E/Sections 20601, 20602, 21801, 21802, 21803, 21804, 21805 and 21806.				

1	2	3	4	5	6
2	**Sector between** **Vizianagaram/TSS to** **Kantakapalli/SP on Up Line,** **Down Line and Middle Line.** **<u>Up Line:-</u>** E/Sections 26101, 26103, 24701, 24703, 23501, 23503, X-200, 23505, 23507. **<u>Down Line:-</u>** E/Sections 25802, 25804, 25002, 25004, 25006, X-201A, 23802, 23804, 23806, X-201, 23808 **<u>Middle Line:-</u>** E/Sections 25901, 25902, 24801, 24802, 23601, 23602, 23603	1)Movement of Electric Trains / Electric Locos shall not be permitted into section Kottavalasa - Kantakapalli on Up Line, Middle Line & Down Line. 2)Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Up Line, Middle Line and Down Line. 3)Concerned Reception and Dispatch Signals shall be kept at 'ON'.	Nil	1)Ensure BM-226, BM-227 are in open position at Kantakapalli/SP. 2)Open CB-94 at Vizianagaram/TSS.	2)Close CB-94 at Vizianagaram/TSS.

1	2	3	4	5	6
3	Sector between Srungavarapukota/ TSS to Kottavalasa/SP on KK Line (E/Sections 061, 062, 063, 064, X 104 and X-105 including GSAL Siding).	1)Movement of Electric Trains / Electric Locos shall not be permitted into section Kottavalasa - Mallividu on KK Line. 2)Line clear shall not be granted / obtained to / from Mallividu for Electric Trains / Locos on KKLine. 3)Concerned Reception and Dispatch Signals shall be kept at 'ON' for KKLine.	Nil	1)Ensure BM/01 is in open position at Kottavalasa/SP.	
				2)Open CB/06 at Srungavarapukota/TSS.	2)Close CB/06 at Srungavarapukota/TSS.
B	**SUB SECTORS**				
1	Up Sub-sector from Pendurti/SSP to Kantakapalli/SP (i.e. E/Sections 21501, 21503, 21505)	1)Movement of Electric Trains / Electric Locos shall not be permitted into section Kantakapalli - Kottavalasa - Pendurti on UpLine. 2)Ensure that no electric loco with its panto raised position on Line Nos.1&2. 3)Line clear shall not be obtained from Pendurti for Electric Trains / Locos on UpLine. 4)Line clear shall not be granted to Kantakapalli for Electric Trains / Locos on UpLine. 5)Admission / Despatch of Electric Trains / Locos is prohibited on Line Nos.1&2. 6)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.	1)Point Nos.56A &B, 76A&B, 57A&B,55A&B shall be kept in Normal Position.	1)Open BM-215 at Pendurti/SSP. 2)Open BM-225 at Kantakapalli/SP.	1)Close BM-215 at Pendurti/SSP. 2)Close BM-225 at Kantakapalli/SP.

2	Up Sub-sector from Alamanda/SSP to Kantakapalli/SP (i.e. E/Sections 23501, 23503, 23505, 23507, X-200)	1) Movement of Electric Trains / Electric Locos shall not be permitted into section Kantakapalli - Kottavalasa on Up Line. 2) Line clear shall not be granted to Kantakapalli for Electric Trains / Locos on UpLine. 3) Concerned Reception Signals shall be kept at'ON'.	Nil	1) Open BM-235 at Alamanda/SSP. 2) Open BM/229 at Kantakapalli /SP.	1) Close BM-235 at Alamanda/SSP. 2) Close BM/229 at Kantakapalli /SP.

1	2	3	4	5	6
3	Middle Line Sub-sector from Pendurti/SSP to Kantakapalli/SP (i.e. E/Sections 21701, 21702, 21703, 21704, 21705 and 21706)	1)Movement of Electric Trains / Electric Locos shall not be permitted into section Kantakapalli - Kottavalasa - Pendurti on MiddleLine. 2)Ensure that no electric loco with its panto raised position on Line Nos.3&4. 3)Line clear shall not be granted / obtained to/from Pendurti for Electric Trains / Locos on Middle Line. 4)Line clear shall not be granted / obtained to/from Kantakapalli for Electric Trains / Locos on Middle Line. 5)Admission / Despatch of Electric Trains / Locos is prohibited on Line Nos.3&4. 6)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.	1)Point Nos. 54A&B, 56A&B, 58A&B, 76A&B, 59A&B, 57A&B, 55A&B, 53A&B shall be kept in Normal Position.	1)Open BM-217 at Pendurti/SSP. 2)Open BM-223 at Kantakapalli /SP.	1)Close BM-223 at Kantakapalli/SP. 2)Close BM-217 at Pendurti/SSP.
4	Middle Line Sub-sector from Alamanda/SSP to Kantakapalli/SP (i.e. E/Sections 23601, 23602 and 23603)	1)Movement of Electric Trains / Electric Locos shall not be permitted into section Kantakapalli - Kottavalasa on Middle Line. 2)Line clear shall not be granted / obtained to/from Kantakapalli for Electric Trains / Locos on Middle Line. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.	Nil	1)Open BM-236 at Alamanda/SSP. 2)Open BM-231 at Kantakapalli /SP.	1)Close BM-236 at Alamanda/SSP. 2)Close BM-231 at Kantakapalli /SP.

5	Down Line Sub-sector from Pendurti/SSP to Kantakapalli/SP (i.e. E/Sections 22002, 22004, 22006, 22008 and 22010)	1)Movement of Electric Trains / Electric Locos shall not be permitted into section Pendurti - Kottavalasa - Kantakapalli on DownLine. 2)Ensure that no electric loco with its panto raised position on LineNos.5&6. 3) Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on DownLine. 4) Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on DownLine. 5) Admission / Despatch of Electric Trains / Locos is prohibited on Line Nos.5&6. 6)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.	1)Point Nos. 52A&B, 54A&B, 58A&B, 60A&B, 73A&B, 59A&B, 53A&B, 51A&B shall be kept in Normal Position.	1)Ensure SM/219 at Loc. 852/22K at Kottavalasa Yard is in open position. 2)Ensure SM/223 at Loc. 852/4K at Kottavalasa Yard is in open position.	
				3)Open BM-220 at Pendurti/SSP. 4)Open BM-222 at Kantakapalli /SP.	3)Close BM-222 at Kantakapalli/SP. 4)Close BM-220 at Pendurti/SSP.

1	2	3	4	5	6
6	Down Line Sub-sector from Alamanda/SSP to Kantakapalli/SP (i.e. E/Sections 23802, 23804, 23806 and23808)	1)Movement of Electric Trains / Electric Locos shall not be permitted into section Kottavalasa - Kantakapalli on DownLine. 2)Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Down Line. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.	Nil	1)Open BM-238 at Alamanda/SSP. 2)Open BM-232 at Kantakapalli /SP.	1)Close BM-232 at Kantakapalli/SP. 2)Close BM-238 at Alamanda/SSP.
7	KK Line Sub-sector from Pendurti/SSP to Kottavalasa/SP (i.e. E/Sections 21801, 21802, 21803, 21804 21805 and 21806)	1)Movement of Electric Trains / Electric Locos shall not be permitted into section Pendurti - Kottavalasa - KantakapallionKKLine. 2)Ensure that no electric loco with its panto raised position on Line Nos.7,8&9. 3)Line clear shall not be granted / obtained to / from Mallividu for Electric Trains / Locos on KKLine. 4)Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on KKLine. 5)Admission / Despatch of Electric Trains / Locos is prohibited on Line Nos. 7,8&9. 6)Concerned Reception , Dispatch and Shunt Signals shall be kept at 'ON'.	1)Point Nos. 52A&B, 60A&B, 73A&B and 51A&B shall be kept in Normal Position.	1)Ensure BM-01 is in open position at Kottavalasa/SP. 2)Ensure SM/200 at Loc.861/2/1 at Penduri Yard is in openposition. 3)Ensure SM/219 at Loc. 852/22K at Kottavalasa Yard is in openposition. 4)EnsureSM/223 at Loc. 852/4K at Kottavalasa Yard is in open position.	
				5)Open BM-218 at Pendurti/SSP.	5)Close BM-218 at Pendurti/SSP.
C	ELEMENTARY SECTIONS				

1	Up E/Section 21501 between Pendurti/SSP and SM/213 at Loc. No. 853/35A of Kottavalasa yard.	1) Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on Up Line. 2)Shunting of Electric Trains / Locos is prohibited from Yard on Up Line beyond Loc. No. 853/29A. 3)Concerned Dispatch Signals shall be kept at 'ON'.	1)Point No. 56A&B shall be kept in NormalPosition.	1)Open BM-215 at Pendurti/SSP. 2)Open BM-225 at Kantakapalli/SP. 3)Open SM/213 at Loc. No. 853/35A at Kottavalasa Yard. 4)Close BM-225 at Kantakapalli/SP.	1)Close BM-215 at Pendurti/SSP. 2)Close SM/213 at Loc. No. 853/35A at Kottavalasa Yard.

1	2	3	4	5	6
2	Up E/Section 21503 between SM/213 at Loc. No. 853/35A and SM/221 at Loc. No. 852/9A of Kottavalasa Yard (i.e on Line Nos. 1&2)	1)Ensure that no electric loco with its pantograph raised condition on Line Nos.1&2. 2)Admission / Dispatch of Electric Trains / Locos is prohibited on Line Nos.1&2. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.	1)Point Nos.76A&B and 57A&B shall be kept in Normal Position.	1)Open BM-215 at Pendurti/SSP. 2)Open BM-225 Kantakapalli/SP. 3)Open SM/213 at Loc. No. 853/35A at Kottavalasa Yard. 4)Open SM/221 at Loc. No. 852/9A at Kottavalasa Yard. 5)Close BM-215 at Pendurti/SSP . 6)Close BM-225 at Kantakapalli /SP.	1)Close SM/213 at Loc. No. 853/35A at Kottavalasa Yard. 2)Close SM/221 at Loc. No. 852/9A at KottavalasaYard.
3	Up E/Section 21505 between SM/221 at Loc. No. 852/9A of Kottavalasa Yard to Kantakapalli/SP.	1) Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Up Line. 2)Shunting is prohibited from Yard on Up Line beyond Loc.No.852/15A. 3)Concerned Reception Signals shall be kept at'ON'.	1)Point Nos. 55A&B shall be kept in Normal Position.	1)Open BM-215 at Pendurti/SSP. 2)Open BM-225 at Kantakapalli/SP. 3)Open SM/221 at Loc. No. 852/9A at Kottavalasa Yard.	1)Close BM-225 at Kantakapalli/SP . 2)Close SM/221 at Loc. No. 852/9A at Kottavalasa Yard.

				4)Close BM-215 at Pendurti/SSP.	
4	Up E/Section 23507 between SM/233 at Loc No.845/39 at Kantakapalli Yard and Kantakapalli/SP.	1) Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Up Line. 2)Concerned Reception Signals shall be kept at 'ON'.	Nil	1)Open BM/235 at Alamanda/SSP. 2)Open BM/229 at Kantakapalli/SP . 3)Open SM/233 at Loc. 845/39 at Kantakapalli yard. 4)Close BM/235 at Alamanda/SSP.	1)Close BM/229 at Kantakapalli/SP . 2)Close SM/233 at Loc. 845/39 at Kantakapalli yard.

1	2	3	4	5	6
5	Middle Line E/Section 21702 between SM/202 at Loc No.860/6A at Pendurti Yard and SM/212 at Loc. No. 854/4A at Kottavalasa Yard	1) Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on Middle Line. 2)Concerned Reception, Despatch& Shunt Signals shall be kept at 'ON'.	Nil	1)Open BM-217 at Pendurti/SSP. 2)Open BM-223 Kantakapalli/SP. 3) Open SM/202 at LocNo.860/6A at Pendurti Yard. 4)Open SM/212 at Loc. No. 854/4A at Kottavalasa Yard. 5)Close BM-217 at Pendurti/SSP. 6)Close BM-223 at Kantakapalli /SP.	1)Close SM/212 at Loc. No. 854/4A at KottavalasaYard. 2)Close SM/202 Loc No.860/6A at PendurtiYard.

6	Middle Line E/Section 21703 between SM/212 at Loc. No. 854/4A and SM/215 at Loc. No. 853/30A at Kottavalasa Yard.	1) Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on Middle Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.	1)Point Nos. 54A&B, 56A&B, 58A&B and 76A&B shall be kept in Normal Position.	1)Open BM-217 at Pendurti/SSP. 2)Open BM-223 Kantakapalli/SP. 3)Open SM/212 at Loc. No. 854/4A at Kottavalasa Yard. 4)Open SM/215 at Loc. No. 853/30A at Kottavalasa Yard. 5)Close BM-217 at Pendurti/SSP. 6)Close BM-223 at Kantakapalli /SP.	1)Close SM/212 at Loc. No. 854/4A at KottavalasaYard. 2)Close SM/215 at Loc.No. 853/30A at Kottavalasa Yard.

1	2	3	4	5	6
7	Middle Line E/Section 21704 between SM/215 at Loc. No. 853/30A and SM/220 at Loc. No. 852/20A at Kottavalasa Yard (i.e on Line Nos.3 and 4)	1)Ensure that no electric loco with its pantograph raised condition on Line Nos.3&4. 2)Admission / Dispatch of Electric Trains / Locos is prohibited on Line Nos.3&4. 3)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.	Nil	1)Open BM-217 at Pendurti/SSP. 2)Open BM-223 Kantakapalli/SP. 3)Open SM/215 at Loc. No. 853/30A at Kottavalasa Yard. 4)Open SM/220 at Loc. No. 852/20A at Kottavalasa Yard. 5)Close BM-217 at Pendurti/SSP. 6)Close BM-223 at Kantakapalli /SP.	1)Close SM/215 at Loc. No. 853/30A at Kottavalasa Yard. 2)CloseSM/220 at Loc. No. 852/20A at Kottavalasa Yard.

8	Middle Line E/Section 21705 between SM/220 at Loc. No. 852/20A and SM/224 at Loc. No. 851/32A at KottavalasaYard.	1) Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Middle Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.	1)Point Nos. 59A&B, 57A&B, 55A&B and 53A&B shall be kept in Normal Position.	1)Open BM-217 at Pendurti/SSP. 2)Open BM- 223 Kantakapalli/SP. 3)Open SM/220 at Loc. No. 852/20A at Kottavalasa Yard. 4)OpenSM/224 at Loc. No. 851/32A at Kottavalasa Yard. 5)Close BM-217 at Pendurti/SSP. 6)Close BM-223 at Kantakapalli/SP.	1)Close SM/220 at Loc. No. 852/20A at Kottavalasa Yard. 2)Close SM/224 at Loc. No. 851/32A at Kottavalasa Yard.

1	2	3	4	5	6
9	Middle Line E/Section 21706 between SM/224 at Loc.851/32A and Kantakapalli/SP.	1)Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Middle Line. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.	Nil	1)Open BM-217 at Pendurti/SSP. 2)Open BM- 223 Kantakapalli/SP. 3)Open SM/224 at Loc. No. 851/32A at Kottavalasa Yard. 4)Close BM-217 at Pendurti/SSP.	1)Close BM-223 at Kantakapalli/SP. 2)Close SM/224 at Loc. No. 851/32A at Kottavalasa Yard.
10	Middle Line E/Section 23603 between SM/234 at Loc.845/34 at Kantakapalli and Kantakapalli/SP.	1)Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Middle Line. 2)Concerned Reception and Dispatch Signals shall be kept at 'ON'.	Nil	1)Open BM/231 at Kantakapalli/SP . 2)Open BM/236 at Alamanda/SSP. 3)Open SM/234 at Loc. 845/34 at Kantakapalli Yard. 4)Close BM/236 at Alamanda/SSP.	1)Close BM/231 at Kantakapalli/SP . 2)Close SM/234 at Loc. 845/34 at Kantakapalli Yard.
11	Down Line E/Section 22004 between SM/201 at Loc. No. 860/9 at Pendurti Yard and SM/211 at Loc. No. 854/6 at Kottavalasa Yard.	1) Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on Down Line. 2)Concerned Reception Signals shall be kept at 'ON'.	Nil	1)Open BM-220 at Pendurti/SSP. 2)Open BM-222 at Kantakapalli/SP . 3)Open SM/201 at Loc. No. 860/9 at Pendurti Yard. 4)Open SM/211	1)CloseSM/211 at Loc. No. 854/6 at KottavalasaYard. 2)Close SM/201 at Loc. No. 860/9 at Pendurti Yard.

				at Loc. No. 854/6 at Kottavalasa Yard. 5)Close BM-220 at Pendurti/SSP . 6)Close BM-222 at Kantakapalli /SP.	

1	2	3	4	5	6
12	Down Line E/Section 22006 between SM/211 at Loc.854/6 and SM/216 at Loc.853/10A at Kottavalasa Yard.	1)Ensure that no electric loco with its pantograph raised condition on Line No.5 2) Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on Down Line. 3)Concerned Reception ,Dispatch and Shunt Signals shall be kept at 'ON'.	1)Point Nos. 52A&B, 54A&B, 58A&B, 60A&B and 75A&B shall be kept in Normal Position.	1)Open BM-220 at Pendurti/SS P. 2)Open BM-222 at Kantakapalli/SP . 3)Open SM/211 atLoc. No. 854/6 at Kottavalasa yard. 4)Open SM/216 at Loc. 853/10A at KottavalasaYard . 5)Close BM-222 at Kantakapalli /SP. 6)Close BM-220 at Pendurti/SSP .	1)Close SM/211 at Loc. No. 854/6 at Kottavalasayard. 2)Close SM/216 at Loc. 853/10A at Kottavalasa Yard.
13	Down Line E/Section 22008 between SM/216 at Loc. 853/10A and SM/225 at Loc.851/30A at Kotavalasa Yard.	1)Ensure that no electric loco with its pantograph raised condition on LineNo.6. 2) Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Down	1)Point Nos. 73A&B, 75A&B, 59A&B, 53A&B and 51A&B shall be kept in Normal Position.	1)Ensure SM/219 at Loc. 852/22K at Kottavalasa Yard is in Openposition. 2)Ensure SM/223 at Loc.852/4K at Kottavalasa Yard is in Open position	

		Line 3)Admission / Dispatch of Electric Trains / Locos is prohibited on Line No.6. 4)Concerned Reception , Dispatch and Shunt Signals shall be kept at 'ON'.		3)Open BM-220 at Pendurti/SSP. 4)Open BM-222 at Kantakapalli/SP. 5)Open SM/216 at Loc. 853/10A at KottavalasaYard. 6)Open SM/225 at Loc.851/30A at KottavalasaYard. 7) Close BM-222 at Kantakapalli/SP. 8)Close BM-220 at Pendurti/SSP.	3)Close SM/216 at Loc. 853/10A at Kottavalasa Yard. 4)Close SM/225 at Loc.851/30A at KottavalasaYard.

1	2	3	4	5	6
14	Down Line E/Section 22010 between SM/225 at 851/30A at kottavalasa Yard and Kantakapalli/SP.	1) Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Down Line. 2)Concerned Dispatch Signals shall be kept at 'ON'.	Nil	1)Open BM-220 at Pendurti/SSP. 2)Open BM-222 at Kantakapalli/SP. 3)Open SM/225 at Loc. 851/30A at KottavalasaYard. 4)Close BM-220 at Pendurti/SSP.	1)Close BM-222 at Kantakapalli/SP. 2)Close SM/225 at Loc. 851/30A at Kottavalasa yard.
15	Down Line E/Section 23808 between Kantakapalli/SP and SM/232 at Loc.845/40A at Kantakapalli Yard.	1) Line clear shall not be granted / obtained to / from Kantakapalli for Electric Trains / Locos on Down Line. 2)Concerned Dispatch Signals shall be kept at 'ON'.	Nil	1)Open BM/238 at Alamanda/SSP. 2)Open BM/232 at Kantakapalli/SP. 3)Open SM/232 at Loc. 845/40A at KantakapalliYard. 4)Close BM/238 at Alamanda/SSP	1)Close BM/232 at Kantakapalli/SP. 2)Close SM/232 at Loc. 845/40A at Kantakapalli Yard.

16	KK Line E/Section 21801 between SM/200 at Loc.861/2/1 at Pendurti Yard and SM/210 at Loc.854/9/1N at Kottavalasa Yard.	1)Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on KKLine. 2)Concerned Reception, Dispatch and Shunt Signals shall be kept at 'ON'.	Nil	1)Ensure SM/200 at Loc. No. 861/2/1 at Pendurti Yard is in openposition. 2)Ensure BM-01 at Kottavalasa/SP is in open position 3)Ensure SM/223 at Loc.852/4K at Kottavalasa Yard is in Openposition. 4)EnsureSM/219 at Loc.852/22K at Kottavalasa Yard is in Open position .	
				5)Open BM-218 at Pendurti/SSP. 6)Open SM/210 at Loc.854/9/1N at Kottavalasa Yard. 7)Close SM/219 at LocNo.852/22K at Kottavalasa Yard.	5)Close BM-218 at Pendurti/SSP. 6)Close SM/210 at Loc.854/9/1N at Kottavalasa Yard. 7)Open SM/219 at LocNo.852/22K at KottavalasaYard.

1	2	3	4	5	6
17	KK Line E/Section 21802 between SM/210 at Loc.854/9/1N and SM/214 at Loc.853/17B at KottavalasaYard.	1)Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on KKLine. 2)Concerned Reception, Dispatch and Shunt Signals shall be kept at 'ON'.	1)Point Nos. 52A&B shall be kept in Normal Position.	1)Ensure SM/200 at Loc. No. 861/2/1 at Pendurti is inopenposition. 2)Ensure BM-01 at Kottavalasa/SP is in open position 3)Ensure SM/223 at Loc.852/4K at Kottavalasa Yard is in Open position . 4)Ensure SM/219 at Loc.852/22K at Kottavalasa Yard is in Open	
				5)Open BM/218 at Pendurti/SS P. 6)Open SM/210 at Loc.854/9/1N at Kottavalasa Yard. 7)Open SM/214 at Loc.853/17B at Kottavalasa Yard. 8)Close SM/219 at LocNo.852/22K at Kottavalasa Yard. 9)Close BM/218 at Pendurti/SSP.	5)Close SM/210 at Loc.854/9/1N at Kottavalasa Yard. 6)Close SM/214 at Loc.853/17B at Kottavalasa Yard. 7)Open SM/219 at Loc No.852/22K at Kottavalasa Yard.

18	KK Line E/Section 21803 between SM/214 at Loc.853/17B, SM/217 at Loc. 853/8B/1 and SM/218 at Loc.853/8B at Kottavalasa Yard. [E/s 21804 on Line No.9 also getsblocked]	1)Ensure that no electric loco is stabling with its panto raised position on Line No. 9 &ShuntingNeck. 2)Line clear shall not be granted / obtained to / from Pendurti for Electric Trains / Locos on KKLine. 3)Admission / Dispatch of Electric Trains / Locos is prohibited on Line No.9 from both ends ofYard. 4)Admission / Dispatch of Electric Trains / Locos is prohibited on Line No.8 from/toPendurti. 5)Concerned Reception, Dispatch &ShuntSignals	1)Point Nos. 60A&B, 62A&B, 66A&B and 77A&B shall be kept in Normal Position.	1)Ensure SM/200 at Loc. No. 861/2/1 at Pendurti is in openposition. 2)Ensure BM-01 at Kottavalasa/SP is in open position 3)Ensure SM/223 at Loc.852/4K at Kottavalasa Yard is in Openposition. 4)Ensure SM/219 at Loc. 852/22K at Kottavalasa Yard is in Open position.

1	2	3	4	5	6
		shall be kept at 'ON'.		5)Open BM-218 at Pendurti/SS P. 6)Open SM/214 at Loc.853/17B at Kottavalasa Yard. 7)Open SM/218 at 853/8B at KottavalasaYard. 8)Close SM/219 at Loc No.852/22K at Kottavalsa Yard. 9)Close BM 218 atPendurti/SSP.	5)Close SM/214 at Loc.853/17B at Kottavalasa Yard. 6)Close SM/218 at Loc. 853/8B at Kottavalasa Yard. 7)Open SM/219 at Loc No.852/22K at KottavalsaYard.
19	KK Line E/Section 21804 from SM/217 at Loc. 853/8B/1 on Line No. 9 & Shunting Neck.	1)Ensure that no electric loco is stabling with its panto raised position on Line No. 9 &ShuntingNeck. 2)Admission / Despatch of Electric Trains / Locos is prohibited on Line No.9 & Shunting Neck from both ends ofyard. 3)Concerned Reception, Despatch& Shunt Signals shall be kept at 'ON'.	1)Point Nos.66A&B and 77A&B shall be kept in Normal Position.	1)Open SM/217 at Loc. 853/8B/1 at Kottavalasa Yard.	1)Close SM/217 at Loc. 853/8B/1 at Kottavalasa Yard.
20	KK Line E/Section 21805 between SM/218 at Loc. 853/8B and SM/222 at Loc. 852/8K at	1)Ensure that no electric loco is stabling with its panto raised position on Line Nos.7&8. 2)Admission / Dispatch of Electric Trains / Locos is prohibited on Line	1)Point Nos. 62A&B, 77A&B and 73A&B shall be kept in NormalPosition.	1)Ensure SM/200 at Loc. No. 861/2/1 at Pendurti is in openposition. 2)Ensure BM-01 at Kottavalasa/SP is in open	

	Kottavalasa Yard.	Nos. 7&8 from both sides of Yard. 3)Admission / Dispatch of Electric Trains / Locos is prohibited on Line No. 9 from / to Kantakapalli/ Mallividu.		position 3)Ensure SM/219 at Loc.852/22K at Kottavalasa Yard is in Open position.

1	2	3	4	5	6
		4)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'.		4)Open BM-218 at Pendurti/SSP. 5)Open SM/218 at Loc.853/8B at KottavalasaYard. 6)Open SM/222 at Loc.852/8K at KottavalasaYard. 7)Cloe SM/223 at Loc. 852/4K at KottavalasaYard. 8)Close BM-218 at Pendurti/SSP.	4)Close SM/218 at Loc.853/8B at KottavalasaYard. 5)Close SM/222 at Loc.852/8K at KottavalasaYard. 6)Open SM/223 at Loc. 852/4K at Kottavalasa Yard.
21	KK Line E/Section 21806 between SM/222 at Loc.852/8K and Kottavalasa/SP.	1)Line clear shall not be granted / obtained to / from Mallividu for Electric Trains / Locos on KKLine. 2)Concerned Reception, Dispatch & Shunt Signals shall be kept at 'ON'. 3)Shunting of electric trains / locos is prohibited on KK Line from yard beyond Loc.852/14K/1.	1)Point No.51A&B shall be kept in Normal Position.	1)Ensure SM/200 at Loc. No. 861/2/1 at Pendurti is in openposition. 2)Ensure SM/223 at Loc. 852/4K at Kottavalasa Yard is in open position. 3)Ensure BM-01 at Kottavalasa/SP is in open position. 4)Ensure SM/219 at Loc.852/22K at Kottavalasa Yard is in Open position .	

				5)Open BM/218 at Pendurti/SSP. 6)Open SM/222 at Loc.852/8K at Kottavalasa Yard. 7)Close BM/218 at Pendurti/SSP.	5)Close SM/222 at Loc.852/8K at Kottavalasa Yard.
22	KK Line E/Section 064 between Kottavalasa/SP to Mallividu/SSP.	1)Line clear shall not be granted / obtained to / from Mallividu for Electric Trains / Locos on KKLine. 2)Concerned Reception & Dispatch Signals shall be kept at 'ON'.	Nil	1)Ensure BM-01 at Kottavalasa/SP is in open position.	
				2)Open BM-02 at Mallividu/SSP.	2)Close BM-02 at Mallividu/SSP.

NOTE:

i) For any unusual movement of Electric Locomotives, the Station Master on duty must refer to the Working Rules, Diagrams of his station and ensure that there is no chance of energising the section where Power Block has beengranted.

ii) PointleadingtounwiredtracksshallnotbeusedforthemovementofElectricalLocoswithPantographraised.

iii) Refer SWR Drg. No.WAT/TRD/SWR/KTV/306/16.

iv) This Appendix-G superseeds earlier Appendix-G DrawingNo.WAT/TRD/SWR/KTV/247/12.