

SWR OF KANTAKAPALLI STATION (KPL)

EAST COAST RAILWAY
WALTAIR DIVISION

STATION WORKING RULES OF KANTAKAPALLI STATION
(BROAD GAUGE)

NO.WTF/5/KPL

Date of Issue: -

Date brought in force: -

NOTE: -

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

(1) STATION WORKING RULE DIAGRAM:

i] STATION WORKING RULE DIAGRAM No: SI/WRD/23131 Alt-'D'

ii] CSTE/E.Co.Rly /Drg. No. : 23131 Alt-'D'

iii] DATE UP TO WHICH CORRECTED:

2. DESCRIPTION OF STATION**2.1 GENERAL (LOCATION)**

i]	Name of the Station:	:	KANTAKAPALLI
ii]	Class of station	:	'SPL'
iii]	Section:	:	HOWRAH-CHENNAI
iv]	Double /Single	:	Triple line between KPL-ALM and KPL-KTV.
v]	Electrified/Non Electrified	:	Electrified
vi]	Gauge BG/MG/NG	:	BG
vii]	Railway	:	East Coast railway
viii]	Route	:	'B' Route.
ix)	Situated at KM:	:	845.185
x]	From	:	HOWRAH
xi]	No. of cabin	:	NIL
xii)	Standard of Interlocking	:	STD-III

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

S.No.	BLOCK STATION		DISTANCE		DIRECTION
A	ALAMANDA	:	9.24 KM.		HWH END
B	KOTTAVALASA	:	7.755 KM.		VSKP END
C	Provision of IBS	:	NIL		
D	Automatic signals	:	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.

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			MID LINE	UP	MUA-847/10, MUA-848/14, MUA-849/15A, MUA-850/28A.
				DN	MDA-850/34A, MDA-849/22A, MDA-848/20, MDA-847/16,
			KPL-ALM	UP	UA-838/5, UA-839/17, UA-840/25, UA-841/29, UA-842/29
				DN	DA-842/34A, DA-841/30A, DA- 840/28A, DA-839/16A, DA-838/12A
			MID LINE	UP	MUA-838/6, MUA-839/16, MUA-840/26, MUA-841/26, MUA-842/28
				DN	MDA-842/34, MDA-841/32, MDA-840/32, MDA-839/22, MDA-838/14
E	D.K Stations /Outlying sidings	:	NIL		

Automatic signaling arrangement is provided between KPL-KTV and KPL-ALM. KPL-KTV and KPL-ALM section all lines had been divided into series of Automatic signaling section. Entry into Each of the running line portion is governed by two consecutive stop signals. (Details of each signal is mentioned)

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

Between Stations	The Point from which the 'Block Section' Commences	The Point at which the 'Block Section' ends.
KPL-KTV UP Direction	From UP Advanced starter signal No SA-37 of KPL.	Outermost facing point No. 55A of KTV.
KPL-ALM DN Direction	From DN LSS signal No SA-38 of KPL.	UP to Point No.52A of ALM.
KPL-KTV middle line UP direction.	From UP Advanced starter signal No SA-39 of KPL on Middle line.	DN Advanced starter signal No. S-48 of KTV on middle line.
KPL-ALM middle line DN direction.	From UP Advanced starter signal No S-39 of ALM on middle line.	DN Advanced starter signal No SA-40 of KPL on middle line.

2.4 GRADIENTS WITHIN STATION LIMITS:

i) TOWARDS KTV END FROM CSB:

From	To	Distance	Gradient
CSB	CH:1296M	1296.000 M	1 in 600 Raising.
CH: 1296M	CH:2350M	1054.000 M	1 in 250 Raising.
CH: 2350M	CH:2850M	500.000 M	Level.
CH:2850M	CH:3940M	1090.000 M	1 in 200 Falling.
CH:3940M	In to section	---	1 in 150 falling.

ii) TOWARDS KTV END UP LINE : (Auto-Section)

From	To	Distance	Gradient
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KM 845.35	KM 846.95	1600 M	1 In 1000 Raising.
KM 846.95	KM848.00	1050 M	1 In 200 Raising.
KM 848.00	KM 848.90	900 M	Level
KM 848.90	KM 849.85	950 M	1 In 225 Falling.
KM 849.85	KM 853.05	3200 M	1 In 250 Falling.

iii) **TOWARDS KTV END MID LINE : (Auto-Section)**

From	To	Distance	Gradient
KM 845.185	KM 846.481	1296 M	1 In 600 Raising.
KM 846.481	KM847.535	1054 M	1 In 250 Raising.
KM 847.535	KM 848.017	482 M	Level
KM 848.017	KM 848.576	559 M	1 In 150 Falling.
KM 848.576	KM 849.144	568 M	1 In 257 Falling.
KM 849.144	KM 851.967	2823 M	1 In 150 Falling.
KM 851.967	KM 852.901	934 M	1 In 400 Falling.

iv) **FROM KTV END DN LINE : (Auto-Section)**

From	To	Distance	Gradient
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.

v) **TOWARDS ALM END (UP & MIDDLE LINE) FROM CSB:**

From	To	Distance	Gradient
CSB	CH: 368.000 M	368.000 M	1 In 600 Falling.
CH: 368.000M	CH: 945.000M	577.000 M	1 in 424 Falling.
CH: 945.000M	CH:1570.000M	625.000 M	1 in 150 Falling.
CH: 1570.000M	CH: 2853.000M	1283.000 M	Level
CH: 2853.000M	CH: 5092.000M	2239.000 M	1 in 150 falling.
CH :5092.000M	In to section	---	1 in 155 falling

vi) **TOWARDS ALM END ON UP LINE (FROM ALM STATION): (Auto-Section)**

From	To	Distance	Gradient
From station	KM 836.58	---	1 in 400 falling
KM 836.58	KM 837.10	520 M	1 in 150 falling.
KM 837.10	KM 837.60	500 M	1 in 600 falling.
KM 837.60	KM 841.95	4350 M	1 in 150 Raising.
KM 841.95	KM 843.90	1950 M	Level
KM 843.90	KM 844.62	720 M	1 in 150 Raising.
KM 844.62	Into station	---	1 in 400 Raising.

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vii) **TOWARDS ALM END MIDDLE LINE (FROM ALM STATION): (Auto-Section)**

From	To	Distance	Gradient
From station	KM 836.025	---	1 in 1400 falling
KM 836.025	KM 836.84	815 M	1 in 400 falling.
KM 836.84	KM 837.04	200 M	1 in 260 falling.
KM 837.04	KM 837.336	296 M	1 in 200 falling.
KM 837.336	KM 837.595	259 M	1 in 760 falling.
KM 837.595	KM 837.995	400 M	Level
KM 837.995	KM 838.359	364 M	1 in 200 Raising.
KM 838.359	KM 839.760	1401M	1 in 150 Raising.
KM 839.760	KM 840.093	333M	1 in 155 raising
KM 840.093	KM 842.332	2239M	1 in 150 Raising
KM 842.332	KM 843.341	1009M	Level
KM 843.341	KM 844.109	768M	1 in 200 Raising
KM 844.109	To station	---	1 in 395 Raising

viii) **TOWARDS ALM END (DN LINE):**

From	To	Distance	Gradient
CSB	CH: 368.000 M	368.000 M	1 In 600 Falling.
CH: 368.000M	CH: 945.000M	577.000 M	1 in 424 Falling.
CH: 945.000M	CH:1076.000M	131.000 M	1 in 395 Falling.
CH: 1076.000M	CH: 1844.000M	768.000 M	1 in 200 Falling.
CH: 1844.000M	CH: 2853.000M	1009.000 M	Level.
CH :2853.000M	CH: 5092.000M	2239.000M	1 in 150 falling.
CH :5092.000M	Into section.	---	1 in 155 falling.

ix) **TOWARDS ALM END DN LINE (FROM KPL): (Auto-Section)**

From	To	Distance	Gradient
KM 845.67	KM 841.32	4350 M	Level
KM 841.32	KM 836.97	4350 M	1 in 150 Falling.
KM 836.97	KM 836.37	600 M	Level
KM 836.37	To station	---	1 in 600 Raising.

2.5. **Layout:**(A) **RUNNING LINES IN THE MAIN YARD.**

Sl No.	Name of the line	Electrified/ Non-Electrified	Platforms with length X breadth
1	Line No.-1 (DN Loop)	Electrified	Medium Level (350MX6.10M)
2	Line No.-2 (DN Line)	Electrified	Rail Level (353.2MX10.66M)
3	Line No.3 (Middle Line)	Electrified	Rail Level (354.2MX10.66M)
4	Line No.4(UP Line)	Electrified	Rail Level (354.2MX10.66M)
5	Line No.5 (Common loop)	Electrified	Low Level (353.2MX10.66 M)
6	Line No.6 (Common loop)	Electrified	Low Level (353.2MX10.66M)

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(B) SIDING:

Sl. No.	Name of the Siding	Electrified/ Non Electrified	Platforms	Isolation of Running Line
01	Engg. Siding/ Ballast Siding	Electrified	---	Isolated from Line No.1 by D/S 67 towards ALM end.
02	Engineering Siding	Electrified	---	Isolated from Line No.1 by D/S 68 towards KTV end.

2.5.1 RUNNING LINES, DIRECTION OF MOVEMENT AND HOLDING CAPACITY IN CSL:

Sl No.	Name of the lines	Holding capacity in CSL	Direction of movements
1	Line No.1(DN loop)	819 M (STR to SS)	(a)Trains coming from ALM and proceed towards KTV are UP trains.
2	Line No.2 (DN line)	815 M (STR to SS)	
3	Line No.3 (Middle line)	726M (STR to STR)	
4	Line No.4 (UP line)	725M (STR to SS)	(b) Trains coming from KTV and proceed towards ALM are DN trains.
5	Line No.5(Common loop)	735 M (STR to STR)	
6	Line No.6 (Common loop)	727 M (STR to STR)	

2.5.2. NON RUNNING LINES:

Sl. No.	Name	Holding capacity in CSL in Mtr.s	Electrified/ Non Electrified
1	Engineering Siding	133 M (SH-DE)	Electrified
2	Engineering Siding/Ballast siding	383 M (SH-DE)	Electrified

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT**(A)**

Sl. No	Special Features	Descriptions
1	ENGG. SIDING	The Engg. Siding takes off from extending portion of over run line of L/1 towards KTV end of yard and terminates in a Dead end. The siding is isolated by motor operated D/S point No.68 having CSL 133 Mtrs (SH to DE).
2	ENGINEERING SIDING/ BALLAST SIDING	The Ballast siding takes off from extending portion of over run line L/1 towards ALM end of yard and terminates in a Dead end. The siding is isolated by motor operated D/S point no.67 having CSL 383 Mtrs (SH to DE).

(B) SPECIAL INSTRUCTIONS:

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Line verification buttons are provided for berthing line No.6 in a sealed box kept outside SM's office. After ensuring clearance of the loop line No.6 by SM physically, resetting of Axle counter can be done by SM.

2.6 LEVEL CROSSINGS:

The details of L.C. Gates ML-477 at KM 845/21-23 are given in Appendix 'A' of this SWR.

3. SYSTEM AND MEANS OF WORKING:

System of working in force	KPL-KTV	AUTOMATIC BLOCK SYSTEM WORKING
	KPL-ALM	
Double line/single line/multiple line	KPL-KTV	THREE LINES (UP, DN, MIDDLE Lines)
	KPL-KTV	THREE LINES (UP, DN, MIDDLE Lines)

4. SYSTEM OF SIGNALLING AND INTERLOCKING:

4.1 SYSTEM OF SIGNALLING AND INTERLOCKING:

1	Standard of Interlocking	Standard – III
2	Type of Signaling	MACLS
3	Mode of Operating the signals	Visual Display Unit (VDU)
4	Provision of Calling –On signals	Calling-on signals are provided below Home signals (i.e. in both UP & Down directions) as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b). and below starter signal no.17,19,21,23 & 20,24,26,30,32.
5	Provision of Shunt signals	Independent Shunt signals SH 6A/B/C/D/E/F, SH 8A/B/C/D, SH10 and dependent shunt signals SH17A/B, SH 19A/B, SH 21A/B, SH 23A/B, SH 25, 29A/B are provided towards VSKP end Independent SH 5A/B/C/D/E, SH 7A/B/C/D/E/F, SH9 and dependent Shunt signal SH 20A/B, SH 24A/B, SH 26A/B, SH 28A/B, SH 30A/B, SH 32A/B are provided towards HWH end for shunting purpose.
6	Emergency cross over	NIL

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7	Track circuits	<p>All berthing portion of line No.1 to Line No.5 are track circuited where as berthing portion of Line No.6 i.e., common loop is monitored by analog axle counter.</p> <p>In addition there are short length track circuits in advance of Advanced Starter Signals and Home signal in both the directions are also provided. For Calling-on signals (Five Rail length) track circuits are also provided in rear of the Home signals in both directions. From last trailing point/fouling mark in either side of Yard to Advanced Starter Signals are also track circuited in UP middle line, UP line and Down lines respectively). Indications for the above track circuits/Axle Counters are available on VISUAL DISPLAY UNIT at SM's office. White indication on the VISUAL DISPLAY UNIT indicates track clear and Red light indicates track occupied condition.</p>																				
8	Axle counters	<p>Analog Axle Counter is provided on berthing portion for line No.6 i.e., Common Loop, in the yard for counting Axles 'IN' and counting axles 'OUT' which indicate whether the concerned berthing track monitored by axle counters is clear or occupied.</p> <p>Auto block sections between KPL-KTV and KPL-ALM are provided with Multi section digital axle counters/MSDAC.</p> <p>For KPL-KTV SEC:- Each line in the section is divided into 5 track sections.</p> <p>For KPL-ALM SEC:- Each line in the section is divided into 6 track sections.</p>																				
9	Crank handle	<p>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 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.</p> <table><tr><th>Crank Handles</th><th>Points</th></tr><tr><td>CH1</td><td>52A/B, 62A/B</td></tr><tr><td>CH2</td><td>58A/B, 59A/B</td></tr><tr><td>CH3</td><td>52A/B, 54A/B</td></tr><tr><td>CH4</td><td>60A/B, 61A/B</td></tr><tr><td>CH5</td><td>55A/B, 57A/B</td></tr><tr><td>CH6</td><td>53A/B, 63A/B</td></tr><tr><td>CH7</td><td>65A/B, 66A/B</td></tr><tr><td>CH8</td><td>67</td></tr><tr><td>CH9</td><td>68</td></tr></table>	Crank Handles	Points	CH1	52A/B, 62A/B	CH2	58A/B, 59A/B	CH3	52A/B, 54A/B	CH4	60A/B, 61A/B	CH5	55A/B, 57A/B	CH6	53A/B, 63A/B	CH7	65A/B, 66A/B	CH8	67	CH9	68
Crank Handles	Points																					
CH1	52A/B, 62A/B																					
CH2	58A/B, 59A/B																					
CH3	52A/B, 54A/B																					
CH4	60A/B, 61A/B																					
CH5	55A/B, 57A/B																					
CH6	53A/B, 63A/B																					
CH7	65A/B, 66A/B																					
CH8	67																					
CH9	68																					

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		(Refer 3.5, 4.2.3, 4.2.4, 4.2.5 of Appendix-B of this SWR for complete details).
10	Emergency Point operation:	Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose. (Refer 4.2 of Appendix-'B').
11	Showing of Veedor Counters	<p>One counter icon has been provided on the VDU. When selected a drop down menu will appear indicating the following counters.</p> <ol style="list-style-type: none"> 1. Emergency Route Release. 2. Emergency Point Operation. 3. Calling on counter (DN LINE) 4. Calling on counter (UP LINE) 5. Emergency Gate Release counter <p>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.</p>
12	Emergency route release indication:	<p>The Electronic interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route.</p> <p>When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), click on the concerned signal. After clicking by the left button on the mouse a pop-UP menu will appear as shown above-Click on the cancellation menu (Main/Calling on) of the concerned signal, the signal will immediately go to ON aspect. After doing so click on the route release menu, the route locked indication will start flashing for 120 second. After completion of 120 seconds, the White light along with the White strip of light will disappear suggesting the route has been released. This action will be recorded in a counter. The counter will increment the number for each and every such action. In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to release the route.</p>

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		Each operation of emergency cancellation of route should be recorded in the emergency route release counter register by registering the next higher number. All such operations and the new number should be recorded in the station diary Veeder counter register and in the train signal register.
13.	Emergency Gate Release	L.C. Gate control can be released and the gate can be opened by this operation when LC gate control remains in locked condition due to setting of any of the signal routes over it or otherwise. For releasing the gate by the Emergency operation the SM on duty has to cancel the signal by signal cancellation control of the relevant signal. Then he has to click the Emergency Gate release control in the Gate pop-up menu. Now the 'LOCKED' (Red) indication will flash for 120 seconds & after the time has elapsed the 'LOCKED' (Red) indication will vanish. Now the SM on duty shall transmit the 'GATE CONTROL' in this condition and 'KEY IN' indication starts flashing. Now the KEY can be extracted from the RKT at Gate Lodge and gate can be opened. 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 manually in a register. 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 Gate Operation along with the latest counter no. in a register
14	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/SM on duty shall follow as per Para no. 4.2.3, 4.2.4, 4.2.5 of Appendix 'B'.

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

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

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

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4.3 POWER SUPPLY:

(i) Auto change over CLS panel is provided in the Station Master's Office with the three power supplies viz., UP AT, Down AT and Local, for changing the switch to the required Supply position. A luminous indicator above the circuit breaker for each Supply indicates the availability of the Supply.

(ii) Normally the switch will be kept towards UP AT or DN AT position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other AT.

Eg: If power block is to be given on the UP line, Down AT must be available and vice-versa.

(iii) In case of failure of one of the AT Supply without any power block, the on duty SM. has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each Supply and their normal position is down and when tripped it goes UP.) In case of failure of both AT supplies, the Local Supply shall be utilized by operating the switch. If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any other mean and a message shall be given to the AEE and CTFO/PSI for prompt rectification.

(iv) For IPS system that provides power supply to the signaling installation 230V AC is taken from the selection output of the Auto change Over Panel in SM Office.

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

REMOTE MONITORING ASM BOX:

Remote monitoring SM Box gives alarm to the SM for the following fault conditions:-

- (a) 50% depth of discharge (DOD) of battery. In this condition audio/visual alarm comes, which can be acknowledged with audio cut-off.
- (b) 60% DOD, which warns for emergency. The alarm for this condition is same as for condition 1.
- (c) 70% DOD, which signals system, shut-down. In this condition signal feed is cut-off and all DC-DC converters continue working. Audio alarm continues till power Supply is restored.
- (d) Any of the module fails, which calls for 'call S&T'.
- (e) Whenever there is a failure of power Supply in one AT the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of power Supply on both AT's and make an entry in the Station Diary duly initiating action for rectification of failure, if any.

5. TELECOMMUNICATIONS:

- a) The Station is connected to VSKP -PSA Main line Control Circuit.
- b) Telephone attached to SGE type Lock and Block Instruments for sections KPL-ALM and KPL-KTV and telephone attached to TLBI section KPL-KTV & KPL-ALM.
- c) Railway Auto telephone is provided at the station.
- d) Hot line communication is provided between KPL-ALM and KPL- KTV stations.
- e) Telephone communication is provided between Station Master and UP CH locations and to DN CH Locations.

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- f) Telephone attached to L.C. Gate No. ML-477 at Km: 845/22-23
- g) The station is connected to VSKP – PSA traction power control circuit.
- h) The station is provided with CUG phone.
- i) VHF set is provided at the 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:**

The duties of the train working operational staff in detail is described in Appendix 'D' of this SWR.

6.1.1 **TRAIN WORKING STAFF IN EACH SHIFT:**

STAFF IN EACH SHIFT		
	SS/SM	1
	TPM-'A' / TPM	1
	Traffic Gateman	1

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

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

The SM on duty is 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

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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 his duty for the period of 15 days or more shall sign in the assurance register a taken of having understood 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 **CONDITION FOR GRANTING LINE CLEAR:**

- a. **DOUBLE LINE AUTOATC BLOCK SECTION (For section KPL-KTV & KPL-ALM)**

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. **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).

- c. Adequate distance for reception of trains at KPL.

Line No.	For UP Trains		For DN Trains	
	FROM	TO	FROM	TO
Line No.1 (COMMON LOOP)	-	-	DN STR.SIG No.20A/B	DS No.67 on OVERRUN LINE (OR) DN ADV STR SIG No.38
Line No.2 (DN MAIN)	-	-	DN MAIN STR. SIG. No.24A/B	DN ADV.STR SIG. No.38 (OR) DN ADV.STR.SIG. No.40 MID LINE
Line No.3 (MIDDLE LINE)	UP MAIN STR.SIG.No. 23A/B	UP ADV. STR. SIG.No.39 (MIDDLE LINE) (OR)	DN MAIN STR.SIG. No.26A/B	DN ADV.STR.SIG.No.38 (OR)

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		UP ADV. STR. SIG. No.37		DN ADV.STR.SIG.No.40 (MIDDLE LINE)
Line No.4 (UP MAIN)	UP STR. SIG. No.21A/B	UP ADV. STR. SIG. No.37 (OR)	-	-
		UP ADV.STR.SIG.No.39 (MIDDLE LINE)		
Line No.5 (COMMON LOOP)	UP STR.SIG.No. 19A/B	END OF OVER RUN LINE (OR)	DN STR.SIG No.30A/B	END OF OVER RUN LINE (OR)
		UP ADV.STR.SIG. No.37 (OR)		DN ADV.STR SIG. No.38 (OR)
		UP ADV.STR.SIG.No.39 (MIDDLE LINE)		DN ADV.STR.SIG. No.40 MID LINE
Line No.6 (GOODS COAL LOOP)	UP STR.SIG.No. 17A/B	END OF OVER RUN LINE (OR)	DN STR.SIG No.32A/B	END OF OVER RUN LINE (OR)
		UP ADV.STR.SIG. No.37 (OR)		DN ADV.STR SIG. No.38 (OR)
		UP ADV.STR.SIG.No.39 (MIDDLE LINE)		DN ADV.STR.SIG. No.40 MID LINE

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

6.2.1.1 **SETTING OF POINTS AGAINST BLOCK 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].

Safety Point Alarm Unit (SPAU):

A safety point alarm is provided on the panel board with different indications:

1. On complete arrival of a train at the station, the SM has to set the points immediately against the occupied line.
2. In case the SM forgets to alter the points, after a time lag of 02 minutes, an audible buzzer will be heard from this instrument along with the 'RED' indication of the line on which the train has arrived.

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3. The SM shall then press 'ACK' button to mute the buzzer, and immediately set the required points against the line on which the train has arrived.
4. On setting the points against the occupied line, the RED indication will disappear.
5. In case SM fails to set the required points against the occupied line a fault message will be triggered SMS will be sent to concerned station mobile and all concerned staff. Action will be taken against.

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. ANY OTHER SPECIAL CONDITIONS:

-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 LP 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/DESPATCH, CROSSING AND PRECEDANCE OF TRAINS:

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

1.	While Receiving a DN train on line No.1 from DN line set to over run line	Receiving of a DN train on line No.2 or 3 or 5 or 6 to DN line from middle line.
2.	While receiving a DN train from DN line to line no.2 set to DN line.	Dispatch of a DN train from line no.3 or 5 or 6 to DN middle line.
3.	While Receiving a DN train from DN line to line No.3 set to middle line.	Dispatch a DN train from line no.1 or 2 to DN line. OR
4.	While Receiving of a DN train from Middle line no.1 to set to ORL.	Receiving of an UP train on line No.3 with overlap ser to UP line OR Dispatching of an UP train from line No.3 UP line. OR Dispatch DN Train from L/2 to DN line or Middle line and L/3 to middle line or DN line.
5.	While Receiving a DN train from middle line to line no.1 set to main line.	Receiving an DN train on line No.3 with overlap set to UP line OR Dispatching an UP train from line No.3 to UP line.
6.	While Receiving of an DN train from middle line on line No.2 to set DN line.	Receiving of a UP train on line no.3 with overlap set to UP line. OR Dispatch of a DN train on line No.3 or 5 or 6 to DN Middle line. OR Dispatch an UP train from line no.3 to UP line.
7.	While receiving of an DN train from Middle line to line no.2 set to middle line.	Dispatch of an UP train from line no.3 to UP line.
8.	While receiving of an DN train from middle line to line no.3 set to middle line.	Dispatch a DN train from line no.1 or 2 to DN line. OR
9.	While receiving an UP train on line no.6 set to ORL.	Receiving a UP train from middle line on line no.3 OR Receiving a DN train on line no.3. OR Receiving a DN train from middle line on line no.1 or 2 or 3.

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		OR Dispatching an UP train from line no.3 or 4 or 5.
10	While receiving an UP train on line no.6 set to UP main line.	Receiving a up train from middle line no.3 to middle line. OR Receiving a DN train on line no.3 OR Receiving a DN train from middle line on line no.1 or 2 or 3. OR Dispatching an UP train from line no.3 to middle line.
11	While receiving an UP train on line no.5 set to ORL.	Receiving a UP train from middle line on no.3 OR Receiving a DN train on line no.3 OR Receiving a DN train from middle line on line no.1 or 2 or 3.
12	While receiving an UP train on line no.5 set to UP main line.	Receiving a UP train from middle line on line no.3 to middle line. OR Receiving a DN train on line no.3 OR Receiving a DN train from middle line on line no.1 or 2 or 3. OR Dispatching an UP train from line no.3 to middle line.
13	While receiving an UP train on line no.3 set to middle line.	Receiving a UP train from middle line on line no.3 to middle line. OR Receiving a DN train on line no.3 OR Receiving a DN train from middle line on line no.1 or 2 or 3. OR Dispatching an UP train from line no.3 to middle line.
14	While receiving an UP train from middle line on line no.6 set to UP main line.	Dispatching an UP train from line no.4 or 5 or 6 to UP main line.
15	While receiving an UP train from middle line on line no.6 set to ORL.	Receiving a DN train on line.3 set to DN line. OR Receiving a DN train from middle line on

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		line no.1 or 2 or (3 set to DN line) OR Dispatching an UP train from line no.3 or 4 or 5.
16	While receiving an UP train from middle line on line no.6 set to UP main line.	Receiving a DN train on line no.3 set to DN line. OR Receiving a DN train from middle line on line no.1 or 2 or (3 set to DN line). OR Dispatching an UP train from line no.3 to middle line.
17	While receiving an UP train from middle line on line no.5 set to ORL.	Receiving a DN train on line no.3 set to DN line. OR Receiving a DN train from middle line on line no.1 or 2 or (3 set to DN line). OR Dispatching an UP train from line no.3 or 4.
18	While receiving an UP train from/ middle line on line no.5 set to UP main line.	Receiving a DN train on line no.3 set to DN line. OR Receiving a DN train from middle line on line no.1 or 2 or (3 set to DN line). OR Dispatching an UP train from line no.3 to middle line.
19	While receiving an UP train from/ middle line on line no.4 set to UP main line.	Receiving a DN train on line no.3 set to DN line. OR Receiving a DN train from middle line on line no.1 or 2 or (3 set to DN line). OR Dispatching an UP train from line no.3 to middle line.
20	While receiving an UP train from/ middle line on line no.3 set to UP line.	Receiving a UP train on line no.(5 or 6) set to ORL or set to UP main line. OR Dispatching an UP train from line no.4 or 5 or 6.

ADEQUATE DISTANCE:

To take off the Home signals for admission of a train, the adequate distance (overlap) as mentioned in 6.2(b) shall be kept clear. [Refer GR.3.40 and SR thereto].

6.5 COMPLETE ARRIVAL OF TRAINS:

The entire block section between KPL-KTV and KPL-ALM on both UP, DN, and Middle 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 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. [Refer SR 4.17.02 and 4.17.03].

6.6 DESPATCH OF TRAINS:**6.6.1 DESPATCH OF TRAINS BETWEEN KPL-KTV & KPL-ALM (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.

6.6.2 DESPATCH OF TRAINS BETWEEN KPL-KTV & KPL-ALM (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 8.4 of Appendix 'B'.)

6.6.3 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:

- a) The provision of GR 3.4, 4.17, 4.42 with relevant SRs and SR 3.42.02 (a)(iv) and other relevant provision of BWM shall be observed.
- b) The sequence for taking 'OFF' signals for run through trains is governed by SR 3.42.02 (a).

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- c) In every case in which trains are permitted to run through on a non isolated line, all shunting shall be stopped and no vehicle unattached to an engine or not properly secured in accordance with rule 5.23 may be kept standing on a connected line which is not isolated from through line vide SR 4.11 (2).
- d) The 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 and 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 8.0 of Appendix-B for resetting of the MSDAC. 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 3.69.03(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.

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

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Motor trolleys shall be worked as per GR 15.25.08 and BWM 7.11 and 7.22. Material Lorries shall be worked in accordance with GR.15.27 and SRs there to.

- 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 conform to the rules laid down for ordinary trolleys while running without block protection and to those laid down for motor trolleys while running under block protection or following another light motor trolley.

7.0 **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 :**

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

8. **SHUNTING**

8.1 **GENERAL PRECAUTION:-**

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.

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

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permitted as also the lines, occupied in shunting. The relevant provisions of GR 5.14 and SR thereto shall be meticulously followed.

a) **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.

9.0 **ABNORMAL CONDITION:**

(a) The rules to be observed in the event of abnormal conditions:	
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
vii) 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

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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) **Procedure for emergency operation of Points :**

- (i) The detailed procedures 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 is mentioned in Para No. 5.2 of Appendix 'B'.
- (c) Certification of clearance of track before "calling on signal" operation is initiated, Before taking off Calling-on Signal during failure of track circuit/axle counter, the route and the clearance of the track over which train would pass to be verified by SM.
- (d) Reporting failure of points, Track circuits / Axle counters and interlocking:
 - (i) Whenever there is a failure of points, track circuits / axle counters or any other interlocking gear at the station the failure should be reported by SM on duty to the concerned signal maintenance staff on duty responsible for attending the failure and only after receipt of the written memo from the Signaling Maintainer for rectification of the fault, SM should restore the normal working.
 - (ii) The entries in failure register to be done with message to the Section Controller.

10. ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-'E')

11. 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 vide SR 3.61.01(a), note (i) and (ii) respectively.

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

**APPENDIX 'A' TO STATION WORKING RULES OF KANTAKAPALLI STATION LEVEL CROSSING
GATE NO.ML-477**

1. GENERAL

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE :

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

Sl.no	Description	Remarks
1	Number of Level Crossing Gate:	ML-477
2	Engineering or Traffic Gate:	Traffic gate (B-2 class)
3	Under control of Station Master/Permanent Way inspector:	SM/KPL
4	Location at KM:	845/21-23
5	At Station	KPL
6	In between station	KPL-KTV
7	BG/MG/NG:	BG
8	Signal line/Double line/Multiple line	Multiple line
9	Normal Position:	Open to Road Traffic
10	Inter Locked/Non-Interlocked:	Interlocked
11	Means of interlocked:	Electrical key transmission by control no. 96
12	Provision of Gate signal at Kms:	1. UP line: Station signal 2. DN line: Station signal
13	Signaling arrangement:	--
14	Means of communication-Telephone/Bell etc:	Telephone connected with KPL station.
15	Width of level crossing gate:	7.5mtrs
16	Type of road {NH/SH/Other}:	Others
17	Name of road:	--
18	Metalled /Non-Metalled:	Non metalled
19	Approach road:	Non metalled
20	Width of the road:	5.5mtrs.
21	Angle of road crossing {In case of the skew gates}:	90 ⁰
22	Road gradients {If any}:	1. North/East side: Level. 2. South/East side: Level.
23	Road alignment {Straight/Curve}:	1. North/East side: Straight
24	Provision of height gauge:	2. South West side: Curve.
25	Type of Barriers	Couple Lifting Barriers & Sliding boom barrier.
26	Length of check rail:	9.5mtrs.
27	Road surface in L-Xing gate:	Level C.C Blocks
28	Length of Rumble strip /speed breakers:	5.5mtrs
29	Road signs:	Provided
30	Speed breaker indication board:	Provided
31	TVU:	22107, August-2021

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32	Census next due on:	August-2024.
33	Demarcation for placement of detonators:	Provided
34	No. of Gate men working:	Two
35	Nearest Railway Medical Assistance:	Rly. Health Unit VZM
36	Nearest Private Medical Assistance {If Any}:	KOTTAVALASA
37	List of equipment available Yes/No:	YES

1.1 EQUIPMENTS:

Sl.No	Description	Quantity	To be used as
1	LED based flashing Tri colour Hand signal lamp	Two	One for use and another for spare
2	Green Hand Signal Flag	One flag mounted on sticks	To hold in furled condition and another for spare
3	Red Hand Signal Flag.	Two flag mounted on sticks	One to hold in furled condition and another for spare
4	Red Banner Flag mounted with sticks.	5	In case of obstruction, one flag is to be displayed on each line except on single line it is to be placed on either side of the line.
5	Spare chains with padlocks	2 chains with padlocks	For securing gate against road traffic in case of gate boom cannot be closed.
6	Stop Boards	2 retro reflective stop boards.	To display towards road traffic when gate is secured by gate chains due to failure of booms.
7	Padlocks	One	To lock the door of the gate lodge in case of necessity.
8	Detonators	Ten (10) in a tin case	For use in case of obstruction of track.
9	Tommy Bar	1No	For leveling the soil surface or to clean the channels of rails.
10	Bucket	One	To keep water
11	Whistle	One	For alerting road users on approach of train and LP/Guard to call their attention.
12	Wall clock	One	To note down the timings in PN/Log book.
13	A small chain for use in case of failure of gate boom lock	Two	For securing boom in closed condition in case of failure of boom lock.

(S.PRBHU)
DSTE /GSU/WAT

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

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

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

1.4 MODE OF OPERATION:

Gate shall normally be kept open to road traffic, whenever it is required to close the gate Station Master on duty shall inform the Gateman about the direction and description of the train intended to receive/dispatch shall insure clearance of road traffic, close and lock the gate. Thereafter transmit the control to the Station Master on duty as per the following procedure:

- (i) Barrier-1 & Barrier-2 switches are provided for individual operation of barriers if required.
- (ii) Red and Green buttons are provided on gate panel for closing and opening of L.C gate respectively.
- (iii) The push button RED pressed, till the gate is closed and locked.
- (iv) Key 'Y' is extracted from EKT-1 after the gate is closed and locked.
- (v) Key 'Y' thus extracted from EKT-1, is inserted in EKT-2 and transmitted electrically to SM in conjunction with switch 'GS' reversed to take off concerned signals.
- (vi) For opening the gate SM transmits control 96, to extract key 'Y' from EKT-2 and insert in EKT-1, the push button 'Green' is pressed till the gate is open.
- (vii) Key GS is provided in gate lodge to put back concerned signals to danger in case of emergency.
- (viii) On complete arrival of the train and after the route is released, locked 'Red' indication will disappear on VDU.
- (ix) SM on duty shall click 'Transmit Control' (96) for transmitting the key back to gate man for operating the LC gate.
- (x) After transmission, the key in indication starts flashing on VDU suggesting that the key is transmitted to L.C gate.
- (xi) An indication will appear near RKT at gate lodge suggesting the key can be extracted from the RKT. Key will then be extracted by the gate man by pushing button provided near RKT for operating of the gate.
- (xii) Flashing white indication on VDU will disappear suggesting that the key is taken out from RKT for operation of LC gate.

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Emergency Crank Handle welded with EKT key is kept in the sealed box for emergency operation when normal system of working fails.

EMERGENCY RELEASE OF GATE KEY:

In the event of gate locked (Red) indication persists on SM's panel even after train movement is completed or when it is required to open the gate due to emergency in gate locked condition on panel the following procedure shall be adopted by both Station Master on duty and gate man.

- 1) Station Master on duty shall first cancel the signal by signal cancellation control of the relevant signal.
- 2) Station Master on duty then shall click on the 'Emergency gate release control' in the gate popup menu.
- 3) The 'Red' locked indication will flash for 120 seconds and after the time has elapsed the 'Red' indication will disappear.
- 4) Station Master on duty then shall transmit 'Gate Control' by clicking 'Transmit control'.
- 5) The 'Key In' indication (white) starts flashing suggesting the key is transmitted to Gate man.
- 6) At gate lodge an indication will appear near RKT suggesting that the key can be released from the RKT for opening of the LC gate.
- 7) Seeing the indication gate man on duty shall extract the key from RKT and operate the gate.
- 8) On release of key from RKT flashing indication will disappear.

Any failure regarding transmission / extraction of gate key shall be intimated to the S&T officials for proper rectification. Till such time the failure is rectified the Station Master on duty shall pass the trains by P/IN or by P/OUT as the case may be.

1.5 DUTIES OF GATEMEN:

[1] COMPETENCY:

Gatemen working at the gate should have competency certificate applicable to perform duty at this gate issued by the SS/SM (In-charge) or Sectional TI.

[2] ALERTNESS:

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

[3] POSITION DURING PASSAGE OF TRAINS:

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

- i. Gate man will stand attentively in front of the gate-lodge facing the approaching train.
- ii. In daytime, gateman shall hold red and green flags furled up on separate Sticks in right and left hands respectively.
- iii. In night time, gateman shall hold lighted hand signal lamp with white light facing the track.
- iv. He shall keep the whistle slung around his neck from a cord.

[4]. ROUTINE DUTIES OF GATEMAN:

- 1) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunshine.
- 2) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrive and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- 3) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- 4) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- 5) Gateman shall also be prepared to repeat any signal which guard may give to loco pilot on walkie-talkie or in any other way.
- 6) If lifting barriers get damages or becomes out of order, the gateman shall use sliding boom barrier to close the gate. Gate man shall report to the station master, gang mate or permanent way inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- 7) In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
- 8) At the gate whose signal has become defective the Gateman shall close and lock the lifting barrier/Sliding boom on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco pilot report the defect at the next station.
- 9) Gateman shall wear badge and prescribed uniform while on duty at level Crossing gate.
- 10) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- 11) Gateman shall work the gate as per gate working instructions and remain well conversant with this instruction.
- 12) Gateman shall ensure that equipment supplies at the gate are in good order and ready for immediate use.
- 13) Gateman shall see that the channel for the flange of the wheel is kept clean.
- 14) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- 15) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- 16) Gateman on electrified section shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- 17) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

5. ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

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- a) He shall take prompt action to warn the loco pilot/guard of the passing train by showing red flags by day and red light by night.
- b) He shall simultaneously try to draw the attention of the loco pilot/guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
- c) If loco pilot/guard fails to take notice, gateman shall immediately inform the station master, on telephone, to take appropriate action under exchange of private number.
- d) In case of trains parting, gateman shall not show stop hand signal to the loco pilot, but shall endeavour to attract the attention of the LP and the Guard by shouting gesticulating or other means.
- e) He shall endeavor to attract the attention of the loco pilot/guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting then and bringing them together in repeated Up and Dn motion as height and as low as possible.
- f) In case of trains does not stop, gate shall immediately inform the station master, on telephone, to take appropriate action under exchange of private number

[6] ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- a) In case of an observation at the level crossing gates,. Gateman shall maintain the gate signals, if any in the 'ON' position.
- b) Thereafter, if he is unable to remove the observation, gateman shall immediately advice the station master on duty, on telephone, regarding the defects/observations at the gate, under exchange of private number.
- c) If there is no response from the station master after two or three attempts, he shall first protect the gate and then inform on phone.

d) ACCIDENTAL ROLLING DOWN OF TRAINS:

When the gateman sees that a train is rolling down or immediately after receipt of the information about accidental rolling down of the train the GK shall:

- a. First close the gate against the road traffic.
- b. Then immediately inform the SM on duty.
- c. He shall not open the gate till he ensured that the train has completely cleared the LC gate.

ON ELECTRIFIED SECTION :

On noticing that, the whole or part of the OHE or feeder or a cable facing down, the GK shall ensure that as far as possible, human beings, animals or vehicles etc. are kept in order to avoid any contact with live equipment.

As soon as it is noticed that, pantograph of an electric rolling stock getting damaged and/or entanglement of the same with the OHE, he shall make every possible effort to stop the train and immediately inform SM on duty and take all necessary measures for the portion of lines as under.

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The gateman shall protect the line as under:

A] ON DOUBLE LINE SECTION:

- I. In the both lines are obstructed The Gateman shall plant a red banner flag by day and the red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.
- II. Then he will similarly plant the other red banner flag by day and the red light by night 5 meters away from the site of obstruction.
- III. Gateman shall then proceed to protect the gate along with detonators, fuses and red flags by day and red hand signal lamp by night.
- IV. Gateman shall proceed in haste exhibiting red flags by day and red light by night on the line on which a train is expected to arrive first, to a point 600 Mtrs and place one detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line shall return to the level crossing gate picking up the intermediate detonator on this way back.
- V. Thereafter he shall proceed on the other line, showing red hand signal, similarly place the detonators as described in Para (4) above and return to the site of obstruction, picking up the intermediate detonator on this way back.
- VI. Having returned to the gate, he must then take steps to remove the obstruction mobilizing any assistance locally available and warn the loco pilot of the approaching train.
- VII. In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at the distance as far away as he can go.

B] On single line section:

- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
- iii) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.

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

(c) **ON MULTIPLE LINES AND PARALLEL SINGLE LINE:**

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

(d) **Other action to be taken by Gateman:**

- i) At night Gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub paras (a) and (b) above.
- ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
- iii) He shall note down the particulars of the road vehicle, vehicle number, name of the Driver, owner and relay these details to the nearest Station Master or SSE(P-Way) regarding the particulars and obstructions at the level crossing gate, through messenger or through means available.

1.6 ENGINEERING ITEMS:

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

WORKING INSTRUCTIONS FOR TRAFFIC LEVEL CROSSING GATES INTERLOCKED WITH STOP SIGNALS OF THE STATION, PROVIDED WITH TELEPHONE, WITH NORMAL POSITION "OPEN TO ROAD TRAFFIC" AT KM 845/21-23(ML-477) IN KANTAKAPALLI YARD
(General Instructions are common for all types of Manual Level Crossing Gates)

1.0 MODE OF OPERATION:

As described in 1.4 of Appendix-A.

Intimation to Gate Keeper:

- i) Before taking off reception/departure signals SS/SM shall inform the gateman, the number, description and direction of the train.
- ii) The gateman shall close the gate and transfer the key to the Station Master.
- iii) The reception/departure signals will then be taken 'OFF' by SM on duty.
- iv) In order to ensure that road traffic is not held up for a long time, the Station Master must ensure that the train is ready for departure in all respects before he advises the gateman for closing the gate.
- v) When a train has to be piloted to and from the station yard or any shunting movement is to be done, the staff deputed to pilot the train or to perform the shunting across the gate shall be personally responsible to ensure that the gate is closed against road traffic before allowing any movement across the gate.

2.0 Failure of Telephonic Communication:

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

- (i) Station Master on duty shall send written advice to the gateman through the porter with full details of number, description and direction of the train.
- (ii) Gateman on receipt of such advice shall close the gate and transmit the key to the Station Master which will enable them to take 'OFF' reception / departure signals.
- (iii) When sufficient time is not available because of greater frequency of train service Station Master will issue written authority to the train Loco Pilot to pass the signal at 'ON' position.
- (iv) In addition Station Master shall also issue a caution order advising the Loco Pilot to whistle continuously and approach the gate cautiously.
- (v) The train Loco Pilot shall be instructed to pass the gate cautiously, on being hand signalled by the gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the gate and ensure that gate is closed following GR 3.73(2)(b).
- (vi) In case of an approaching train, the Station Master shall advise the Station Master at the despatching end, under exchange of Private Number that the telephone at the gate has failed.
- (vii) The Station Master at the despatching end shall then issue a caution order to the LP before despatching a train in the block section from his end.
- (viii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the defect at the earliest.
- (ix) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection / fit memo for the same.

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3.0 WORKING OF SLIDING BARRIER IN CASE OF BREAKAGE OF ELECTRICAL LIFTING BARRIER

- (i) Sliding Barrier (L/1 side) will be rolled across the road till the locking end rests on lock post. Inserting & turning the key-1 (Which is chained with sliding barrier) releases the lock plunger, sliding barrier gets locked and releases the Key No.2.
- (ii) Similarly sliding barrier (line no.6) will be rolled across the Road till the locking end rests on lock post. Inserting & turning Key-2 (which is released from line no.1 side barrier) release the lock plunger. Then by sliding the lock plunger barrier gets locked & releases key no.3.
- (iii) Key No.3 is inserted in sliding barrier Key (SKB) RKT No.3 and transmitted electrically to SM/KPL in conjunction with 'GS' reversed to take OFF concerned signal.
- (iv) For opening of sliding boom the SM/KPL will transmit electrically control 96 to extract SBK from RKT no.3. SBK Key is inserted in lock No.3 at line No.6 side sliding boom lock post release the lock plunger and Key No.2 Sliding boom will be rolled across the road till the clearance of road.
- (v) Key No.2 inserted in lock No.2 at L-1 side sliding boom lock post, releases the lock plunger and Key No.1. Sliding boom will be rolled across the road till clearance of road.

4.0 Failure of the Gate Key with the gate in closed position when Gate Key cannot be extracted for opening the gate:

- (i) If the gate key cannot be extracted from EKT-1 on gate panel in closed position of the gate, the gate man must immediately inform SM on duty over telephone under exchange of private number.
- (ii) If Emergency Key is available at the gate lodge, Gateman will take it out from the sealed box by breaking the seal and open the gate for road traffic.
- (iii) The record of the date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons.
- (iv) Thereafter, the gate must be treated as non-interlocked and procedure for reception / despatch of trains as prescribed for non-interlocked gates, should be adopted.
- (v) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
- (vi) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vii) Station master will advise S&T staff responsible for electrical key transmitter to rectify the defect at the earliest.
- (viii) Normal working will be resumed only after S&T staff repairs the electrical key transmitter and reconnection/fit memo for the same.
- (ix) After rectification, the Emergency Key shall be replaced in the Emergency Key Box and resealed by the S&T maintainer.

5.0 Failure of the Gate Key, with the gate in open condition:

- (i) If the gate key cannot be extracted from EKT-2 on gate panel in open position of the gate, the gate man must immediately inform SM on duty over exchange of private number.
- (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception / dispatch of trains as prescribed for non-interlocked gates should be adopted.
- (iii) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass the trains on hand signals.

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- (iv) Station Master on duty shall issue caution order to the Loco Pilot of a departing train.
- (v) He shall also advise the Station Master at the dispatching end under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) Station master will advice S&T staff responsible for electrical key transmitter to rectify the defect at the earliest.
- (vii) Normal working will be resumed only after S&T staff repairs the electrical key transmitter and reconnection/fit memo for the same.
- (viii) After rectification, the Emergency Key shall be replaced in the Emergency Key Box and released by the S&T maintainer.

6.0 Obstruction at the Gate:

- (i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (ii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defects / obstruction at the gate, under exchange of private number.
- (iii) Station Master on duty shall be advised to put the reception / departure signals back to 'ON' position, if taken 'OFF' for a train.
- (iv) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- (v) Gateman shall then rush with detonators, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no.1.5(5).
- (vi) There he shall protect the gate from the other direction also.
- (vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.
- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstructions.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco Pilot of all train to proceed cautiously, and pass the reception / departure signal at 'ON' position on green hand signal of the gateman, of the gate is broken, but is clear of any obstruction.
- (xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection / fit memo for the same.

7. A) Obstruction on the Track near Level Crossing:

If there is a rail fracture or obstruction on the track due to failing of a tree, fouling by

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road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No.7 above. If the obstruction fouls the Level Crossing Gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

[B] OTHER ACTION TAKEN BY GATE MAN :

- [I]. At night gate man shall light two hand signal lamps and take action to exhibit red light and protect the lines as per described in sub para [A] above.
- [ii] If the gate is broken by the road vehicle which is fouling by track, or if lifting barrier or any other part of the gate found the track, or if there is any other obstruction at the gate, the gate man shall take immediate action.
- [iii] He shall note down the particulars of road vehicle, vehicle number, name of the driver, owner and relay these details to the nearest Station Master, SSE/P.way regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

APPENDIX 'B'**APPENDIX 'B' TO STATION WORKING RULES OF KANTAKAPALLI STATION**

DETAIL DESCRIPTION OF SIGNALLING AND INTERLOCKING INSTALLATIONS, INSTRUCTIONS FOR WORKING THEM NORMALLY AND IN EMERGENCIES ETC. INCLUDING POWER SUPPLY ARRANGEMENTS.

1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:

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)** with a standby installed in the SS/SM's Office. Sections of KPL-KTV and KPL-ALM are provided with Auto signaling system with Multi section Digital Axle counter (MSDAC).

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

The Operator Console cum Visual Display Unit (VDU) is provided for operation of Signals, Points, L.C Gates, Crank Handles, Siding & other controls etc. A Mimic yard diagram based on SI plan no.SI/23131 Alt-D will be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the Station yard mimic diagram of VDU will be dynamically updated.

2.1 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 also **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.

2.2 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.

2.3. ICONS AND INDICATIONS PROVIDED ON THE VDU

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

SL. NO.	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1	SS/SM's Key	Yellow light when key is 'IN'	Ensures operation of VDU by authorized person	Protected by pass word
2.	---	Emergency Route release - UP & DN	Flashing indication appears when Emergency route release operation is initiated.	
3.	---	Emergency Gate release	Flashing indication appears when Emergency gate release operation is initiated.	
4.	Emergency Point operation key	Yellow light when key is 'IN'	Ensures emergency point operation by authorized person	For each operation concerned counter shall register one count higher.
5.	---	System indication	Indicates System 'A' or 'B' is in working mode	
6.	Point failure Ack. button	Yellow	Flashing indication appears when any point fails. SS/SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. After verification at site inform S&T staff Immediately.
7.	Signal failure Ack. button	Yellow	Flashing indication appears when any signal fails. SS/SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. Inform S&T staff Immediately.
8.	CH-1, CH-2, CH-3,CH-4buttons	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.	--

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9.	L.C. Gate control-96 button	Yellow lamp indicates 'Gate Closed'. Red lamp indicates 'Gate LOCKED'.	SS/SM shall right click on the button icon to select menu to Transmit / Receive/ emergency operation of gate as required.	In case of emergency operation 'Emergency gate release' indication will appear. For each operation concerned counter shall register one count higher.
10.	Counter	-	As and when required SS/SM shall point the curser on the counter icon and right click on it. A drop down menu will appear indicating all the counters available in the system. SS/SM shall select the required counter on the menu and can read the latest counter reading.	--
11.	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 berthing portion of track will appear as thick Red line.

3.0. OPERATIONAL PROCEDURE THROUGH VDU AND INDICATIONS:

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

3.1 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.

3.2 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 "SS/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.



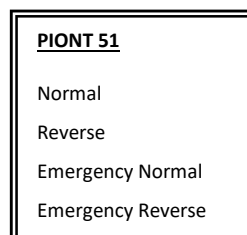
Enter the USER NAME and PASSWORD and click the OK button.

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.

3.3 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:

**3.3.1 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.

3.3.2 NORMAL TO REVERSE OPERATION:

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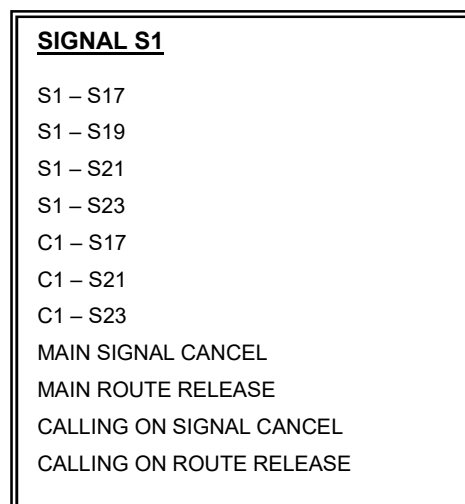
Track the pointer to REVERSE menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to reverse.

3.3.3 POINT INDICATIONS

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

3.4 PROCEDURE FOR SETTING OF ROUTES AND TAKING OFF SIGNALS:

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



SS/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.

3.4.1 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.

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3.4.2 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.

3.4.3 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 signals SS/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 clears after a lapse of 120 seconds for starters and 60 seconds for Home signals provided other conditions are fulfilled.

3.5 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



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

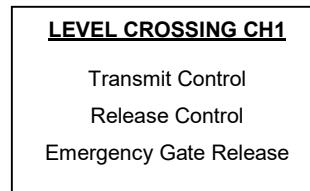
A Crank handle locked indication (Red) will appear when the particular point is on the signal route set over it or engaged in route setting in any other way.

3.6 LEVEL CROSSING GATE OPERATION:

To Transmit or Release control of the Level crossing gate, click on the Level crossing control button icon provided like the following button on the VDU.



The appearing pop-up menu gives details of the possible commands on the Level crossing gate.



Normally no indication will be available on the VDU indicating that the gate control key is out and gate is open. When it is required to close the gate SS/SM on duty shall intimate the gate man to close the gate supported by exchanging PN. Upon instructed by the SS/SM on duty the gate man shall close and lock the gate and after reversing the concerned slot switch he shall transmit the gate control key to station by inserting and transmitting the key in the RKT. A flashing yellow indication will appear on the VDU seeing which SS/SM on duty receive the control by clicking on the L.C. Gate control button icon and select 'Release'. The flashing indication shall become steady.

When the key is required to be transmitted to the Gate man, SS/SM on duty has to transmit the control by clicking 'Transmit'. After transmission the KEY IN indication will starts flashing, now the KEY can be extracted from the RKT. When the gate has been closed, locked & slot switch is in reverse position, After putting the key in the RKT, A KEY IN flashing indication will appear on the VDU. Now the SS/SM has to release the control for the steady indication.

The locked indication will appear when the LC Gate has locked by initiation of any of the possible signal routes.

3.7 OVERLAP TIME RELEASE (WHITE LIGHT):

Separate indications (White Light) for each overlap is provided near the starter signal to indicate the free or locked condition of 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.

4.0 EMERGENCY OPERATIONS:

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

4.1 CANCELING A ROUTE/ EMERGENCY ROUTE RELEASE:

To cancel a signal route when the route is set and the signal is taken-off, click on the signal. After clicking by the left button on the mouse a pop-up menu will appear as shown in Para 3.4 above. 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

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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.

4.2 **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 SS/SM on duty shall verify that the point zone is clear of any vehicle occupying the track section and the same is clear of any obstruction.

4.2.1 **EMERGENCY 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 KPL. 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.

4.2.2 **EMERGENCY REVERSE OPERATION 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 KPL. 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.

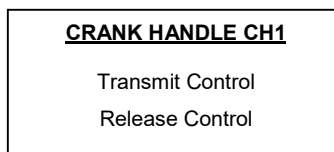
After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu. The user name and password is to be given for 'KEY OUT' also.

4.2.3 **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



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

4.2.4 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.

4.3 EMERGENCY GATE OPERATION:

L.C. Gate control can be released and the gate can be opened by this operation when LC gate control remains in locked condition due to setting of any of the signal routes over it or otherwise. For releasing the gate by the Emergency operation the SS/SM on duty has to cancel the signal by signal cancellation control of the relevant signal. Then he has to click the Emergency Gate release control in the Gate pop-up menu. Now the 'LOCKED' (Red) indication will flash for 120 seconds & after the time has elapsed the 'LOCKED' (Red) indication will vanish. Then, the SS/SM on duty shall transmit the 'GATE CONTROL' in this condition and 'KEY IN' indication starts flashing. The KEY can be extracted from the RKT at Gate Lodge and gate can be opened. 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 Gate Operation along with the latest counter no. in a register.

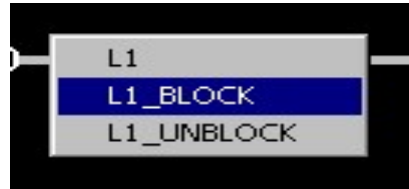
4.4 LINE BLOCK AND UNBLOCK (REMINDER COLLAR):

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

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4.4.1 LINE BLOCK:

To set the 'LINE BLOCKED', the SS/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.

**4.4.2 LINE UNBLOCK:**

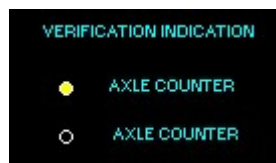
To release the set block of any particular line, the SS/SM should select "L. No.____ UNBLOCK" command using the left mouse button. After selecting the "L. No.____ UNBLOCK" that particular line will be available for the train movement leading to all the possible L1 Track circuit section.

5.0 RESETTING OPERATION FOR LOOP LINE AXLE COUNTER ON LINE NO 6

Analog Axle counter is provided to prove clearance/occupancy of berthing portion on line No: 6. The occupation/clearance of the axle counter section is indicated on the VDU by RED & GREEN indications respectively.

- 5.1** When after clearing of a train or due to any failure, if the berthing zone axle counters of L/6 does not show clear indication and section occupied indication continue to glow on VDU, SS/SM on duty shall initiate resetting procedure.

Before initiating resetting on duty SS/SM at KPL Station shall send operating staffs who in turn, verify that the concern loop line is clear of all obstruction and open the respective line verification box and press the verification button provided in the line verification box near SMs office.



On obtaining verification indication which is indicated by glow of light on the VDU below the verification indication, SS / SM shall click the respective option for resetting the concerned axle counter and the same will be reset by this operation and concerned VDU counter will change to the next higher number.



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

6.0 MAIN SIGNAL LAMP FAILURE INDICATION AND BUZZER ACKNOWLEDGMENT:

LED signal lamps are provided for main signals at this station. In case failure of LED signals 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 LED lamp is replaced by a new lamp. For rectification of failure SS/SM on duty should inform the concerned S&T staff about the group which has failed. For the purpose of giving main filament failure indication the following groups are formed on either side.

6.1 POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND POINT FAILURE ACKNOWLEDGEMENT:

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 FAILURE ACK' button will disappear.

6.3 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. Emergency Gate release.
4. Axle counter resetting for line No: 6. .

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

7.0 TRACK CIRCUITS:

All lines are track circuited from Home signal to advanced starter signals at either direction of the yard. L/6 (Common loop line) is provided with Axle Counter. Approach Track Circuit (5 Rail lengths) for Calling-on signal are also provided in rear of the Home signals in both directions. In addition there are (5 Rail length) track circuits beyond Advanced starter Signals in both the directions for replacement of Last Stop Signal. Indications for the above track circuits are available on VDU at SS/SM's office. Yellow strip on VDU indicates 'ROUTE IS SET AND TRACK CLEAR' and Red strip indicates 'TRACK OCCUPIED CONDITION'.

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

8.0 AXLE COUNTER:

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Analog Axle Counter is provided on berthing portion for Line No.6 (UP goods Loop line) for counting Axles 'IN' and counting axles 'OUT' which indicate whether the concerned Sdg. point zone / berthing track monitored by axle counters is clear or occupied.

8.1 **FOR SEC: KPL-KTV AND KPL-ALM:**

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

FOR SEC: KPL-ALM: Each line in the section is divided in to 6 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.

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.

8.2 **Manual Reset of MSDAC:**

Line verification Boxes for each line are provided at KTV, KPL and ALM. Upon receiving the train, KPL station master shall ensure complete arrival of the train physically and acknowledge the same to respective SMs of KTV & ALM through LV box. Similarly KPL SM will get acknowledgement from KTV & ALM for dispatched trains from KPL. After receiving LV indication SM KPL 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.

8.3 **AUTOMATIC BLOCK SIGNALLING:**

Section between KPL-KTV and KPL-ALM 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
KPL-KTV	UP LINE	UA847/9, UA848/13, UA849/19A, UA850/31A		37XT, U847/9XT, U848/13XT, U849/19AXT, U850/31AXT
	DN LINE	DA850/28A, DA849/22A, DA848/16A, DA847/12A		50XT, D850/28AXT, D849/22AXT, D848/16AXT, D847/12AXT.
	MIDDLE LINE	D	MDA850/34A, MDA849/22A, MDA848/20, MDA847/16	48XT, M849/15AXT, M848/14XT, M847/10XT, 39XT

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		U P	MUA847/10, MUA848/14, MUA849/15A, MUA850/28A	48XT, M849/15AXT, M848/14XT, M847/10XT, 39XT
KPL- ALM	UP LINE	UA-838/5, UA-839/17, UA840/25, UA841/29, UA842/29		37XT, U838/5XT, U839/17XT, U840/25XT, U841/29XT, U842/29XT
	DN LINE	DA-842/34A, DA-841/30A, DA-840/28A, DA-839/16A, DA-838/12A		38XT, D842/34AXT, D841/30AXT, D840/28AXT, D839/16AXT, D838/12AXT
	MIDDLE LINE	DN	MDA-842/34, MDA-841/32, MDA-840/32, MDA-839/22, MDA-838/14.	40XT, M841/26XT, M840/26XT, M839/16XT, M838/6XT, 39XT
		UP	MUA-838/6, MUA-839/16, MUA-840/26, MUA-841/26, MUA-842/28.	40XT, M841/26XT, M840/26XT, M839/16XT, M838/6XT, 39XT.

8.4 DIRECTION SETTING PANEL FOR SINGLE LINE:

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

8.5 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:

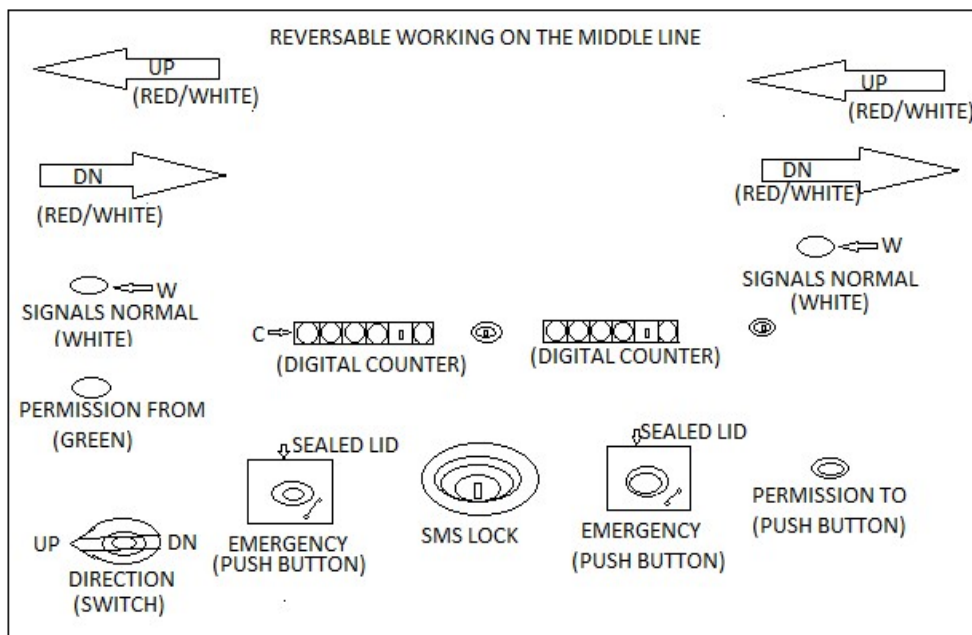
Whenever it is necessary to operate the panel, this key shall be inserted in the key-hole and turned. Immediately after completion of every operation on the panel, this key must be taken out and kept in the personnel custody of the station master on duty so as to prevent inadvertent or unauthorized operation of various controls in the panel.

8.6 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.



8.7 **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.

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

Miniature colour light Calling-on signal is provided below the UP & DN Home signals and below UP & DN starters 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.

- 9.1 To take off Calling-on signal the train must come to stop at the foot of the home signal, occupying the track circuit (1AT, 2AT, 3AT, 4AT, berthing track circuit for starter as the case may be) in rear of the Home signal and Starter signal. When a train occupies the 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/SM on duty. After a lapse 60 seconds for homes and for immediately starter signal Calling-on signal takes-off. A white light glows at the concerned Calling-on signal on the VDU.

9.2 **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

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on duty intends to cancel the route set by him shall follow procedure for cancellation of route described in Para 4.1 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.

9.3 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/SM shall follow Para no. 3.4 of APPENDIX-B.

9.4 INTERLOCKING OF SIGNALS:

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

Signals once taken OFF can be put back to ON incase of emergency by pressing the concerned signal cancellation on VDU even when the panel is locked up with station master's key.

9.5 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 SS/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 SS/SM on duty.

The SS/SM on duty shall then hand over the written authority (T/369(3b)) to the TPM for piloting the train. While going towards Home signal the TPM shall check the points and satisfy him self 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. SR 3.69.03(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 SS/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.

9.6 PILOTING OF TRAINS - OUT OF STATION YARD:

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When the starter 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 SS/SM on duty. Then the SS/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) for double line section. In case of single line Auto signaling section in terms of 3.70.01 except that in lieu of T/369(3b), written authority in the prescribed form T/A912 and T/C 1425 shall be issued. The TPM shall hand over the pilot memo to the Loco pilot after the train stopped. [Refer SR 3.70.02]

9.7 SHUNTING:

Shunt below of starter signals for shunting up to Advance Starter. For back shunting individual shunt signal are provided at North and South side of the yard respectively for shunting back to the station yard in desired direction. For taking OFF Shunt signals please refer Para no. 3.4.2 of APPENDIX-B.

10 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.

11 CRANK HANDLING/EMERGENCY OPERATION OF POINTS:

Crank handle operation is interlocked with the Signalling and interlocking system at this station. Key for Crank handles are normally locked inside the RKT instrument inside Location boxes in the yard and can be taken out only when all the signals leading are in the 'normal' position and the route is not locked for whatever reasons. Crank handle can be transmitted or released by following procedure as laid down in Para no.3.5 of Appendix-'B'. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted at both ends of the yard.

12. 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 to be informed for rectification of failure.

13. LOCKING OF RELAY ROOM:

As per JPO/02/2012, the following procedure shall be adopted for opening of Relay room.

The Relay Room at the station is provided with double locking system of operating and S&T locks. One lock shall be provided on the door of Relay room by the Station Master. This lock is named as operating lock. The key shall be kept in the safe custody in the Key-box with the SM on duty. Likewise, one lock shall be provided on the door of Relay room by the Signal Maintainer/Signal supervisor of the section.

Names of the S&T staff authorized for opening of Relay room is to be entered in the first page of Relay room Key register and jointly certified by SSE/Signal in charge and DTI in-charge of the section. In emergency, if any S&T staff other than authorized wants to open Relay room, he must inform DSTE through Signal SS/SM by giving Signal Fault Control order number.

Whenever relay room is to be opened either for schedule maintenance activities/construction works. The concerned maintainer / Signal Supervisor will inform SM on duty for opening of Relay Room with reason. SM on duty will verify his identity from the list of authorized S&T staff, after the entry is made in Relay room and also with Red ink in TSR. Relay Room Key shall not be handed over by SM on duty to any Group-D staff of S&T department. On completion of work, the concerned Signal Maintainer/Signal Supervisor shall properly closed Relay Room door and lock it with both the locks and then return the key of operating lock to the SM on duty making the entry in the Relay room key register.

When the Key of Operating Lock is returned by S&T staff to SM on duty, he shall verify the Relay Room for proper locking and then keep the key in safe custody and acknowledge it on the Relay Room key register. If the relay room key is handed over to the Signal staff regarding the interference in safety gears the train shall be piloted in and out.

For attending failures of S&T gears within relay room, the following steps shall be taken:

Entry to be made in S&T failure register by SM on duty and failure Memo has to be issued to S&T staff. The staff shall not take the Relay room key for attending failures and open the Relay room unless the failure is recorded in signal failure register. If disconnection is required, Disconnection Memo has to be given by S&T staff to SM on duty. Failure memo should be acknowledged and entry in relay room key register to be made by S&T staff before obtaining station master's key. Relay room key for schedule maintenance shall be taken once in a calendar month during monthly inspection by Sectional Supervisor. Relay room can be opened by following above procedure for special maintenance activities like cable insulation testing, Block/disconnection memos, section table testing, maintenance work inside relay room by Electrical and Engineering staff, during failures, E.I resetting and inspection by Divisional and Headquarter officials, works required by Construction & Open line staff for preparatory works and during

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commissioning. In each such case, the construction staff shall follow the detailed guidelines issued regarding working on signaling gears under the charge of open line. In case of emergencies such as fire, flood, earth quake etc. open line Section Engineer (Signal)/Signal Maintainer & SS/SM shall jointly decide the need for opening the Relay room. Section Engineer (Signal)/HQ at Divisional Control office and section controller shall be advised respectively. In case of communication failure during such emergencies, Open line signal Maintainer/Supervisors and SS/SM on duty shall jointly decide the need for opening the Relay room and communicate later to respective controls. In case key is lost/misplaced, it shall be reported to S&T control as well as section control for either lock. In normal courses the spare key with respective custodians shall be used. In emergency situation, lock may be broken under advice to Section Control as well as S&T control. New lock shall be procured and provided.

In case SS/SM on duty comes to know that Relay room opening by unauthorized means or by unauthorized person or by any group-D staff, the signaling system shall be suspended by him and matter immediately reported to Section controller for necessary action. Senior section engineer (signal) & DTI of the respective section will check the station records of Relay room opening during their inspections and cross check it with data logger if provide. Discrepancy, if any shall be immediately inquired into and advised to Sr.DSTE & Sr.DOM by numbered control message from the station immediately for further action.

14. 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.

15. PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF AN INTERLOCKING GEAR:

In case of failure of any interlocking gear at the station, the failure report should be communicated by the Station Master to the sectional Maintainer, the SSE(Signal) of the section and others through a memo as per GR and SR 3.51.04 and 3.68.04 and document all such transactions.

16. INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

Before declaring a point as defective, the setting of the point on the route to which it applies shall be inspected by the Station Master on duty irrespective of the position of the buttons.

17. 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

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him self that the gear is in good and proper working order, he shall resume the normal working of the said defective apparatus in terms of SR.3.68.04 (C) and (D).

18 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 preplan these works. Field staff and the Inspector of the section should give to the Station master in writing 'Advance Intimation' about this work in terms of G and SR.15.08.01.

19. EMERGENCIES:

Notwithstanding, anything contained in the aforesaid Para as 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.

20. PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL, POINTS AND USE OF EMERGENCY CRANK HANDLE:

- 20.1** Whenever a Signal or a Point becomes defective any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at the Station.
- 20.2** In case of failure of Signal or a Point and in case the Point can not be operated from the Panel, the emergency Crank Handle which is Interlocked with the system has to be extracted for operation of points.
- 20.3** When the Crank Handle is removed from RKT for operation of the defective Motor Operated Points, the responsibility for its safe custody re-sets with the SM/SS on duty till it is replaced back in RKT and sealed by Signal Maintainer.
- 20.4** The case of failure of Motor Operated Points should be promptly reported to the concerned SSE(Signal)/ESM for immediate rectification.
- 20.5** Whenever a 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.
- 20.7** Before parting with the Crank Handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for

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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.

21.0 The Crank Handle Register is to be maintained in the following Performa by the Station Master on duty wherein the particulars of usage of the Crank Handle must be recorded:

1. Date:
2. Point Number which failed or required to be tested:
3. Time failure:
4. Disconnection memo number received from S&T Staff:
5. Signature of SM/Signal Official to whom the Crank Handle is handed over:
6. Time Emergency Crank Handle is sent out:
7. Individual Point numbers and Line number nominated for admission of dispatch for which Points are set, Clamped and Padlocked:
8. Train number to be admitted or dispatched:
9. Signature of the Station Master on duty to ensure correct setting, Clamping and Padlocking of the Points:
10. Date and Time fault rectified.
11. Time of Crank Handle received back by SM on duty:
12. Signature and Designation of the Signal Official who rectified the fault.

22.0 ANALOG AXLE COUNTER and DESCRIPTION OF RESETTING EQUIPMENT (WITH STATION YARD):

L/6 common loop is provided with analog axle counter as L6AXT.

Whenever Axle counter zone is occupied or failed, a visual 'RED' indication appears on the VDU at station and when verified for clearance and initiated for resetting, an 'YELLOW' indication appears in the VDU and when once the resetting is completed, then appears 'GREEN' indication and the 'YELLOW' indication extinguishes. A VDU with indications, Veeder counter for each Axle counter zone, SS/SM's Common reset key along with one individual push button for loop lines for resetting is installed at station to indicate the occupation/clearance of Axle counters of the full yard.

23.0 TELECOMMUNICATIONS:

- [a] The Station is connected to VSKP-PSA Control Circuit.
- [c] Railway Auto telephone is provided at this station.
- [d] Hot line communication is provided between SS/SM at station with adjacent stations.
- [e] Telephone communication is provided between SS/SM on duty to UP & DN Crank Handle locations.
- [f] Telephone attached to L.C. Gate No.ML/477 at Km.845/21-23
- [g] The station is connected to VSKP-PSA traction power control circuit.
- [h] VHF set is provided at the station.
- [i] CUG Phone is provided.

24.0 POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS

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

- i] Normal supply from UP AT/ DN AT connected to OHE traction distribution. [230V 50HZ].
- ii] Stand by supply – From AP Transco [Single-phase 230V-50 HZ].

Normal power supply [Single-phase 230V-50 HZ]. to the signaling and interlocking installation at the station is drawn from the traction power sources. Whenever traction power supply fails the CLS Auto change over panel switch to available as stand by supply. SS/SM on duty shall operate the change over switch provided in the SM's office connecting the power supply from the healthy sources to the installation.

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

[i]. A Auto change over CLS Panel is provided in the SM's office with the three power supplies viz., UP AT , DN AT and local for the changing the CLS Panel to the required supply. The availability of the supply is indicated by luminous indicator above the circuit breaker for each supply.

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

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

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

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

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

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

25.0 WORKING OF INTEGRATED POWER SUPPLY [IPS, INDICATIONS & ACTION TO BE TAKEN BY SS/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 SS/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

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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 SS/SM on duty is tabulated below:

Sl. No	Instruction	Health of Battery Bank/ Equipment.	Visual Indication	Audio Indication	Action to be taken by SS/ 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 SS/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 8 to 10 hours before system shut down indication of APS.

APPENDIX 'C' TO STATION WORKING RULES OF KANTAKAPALLI STATION**ANTI COLLISION DEVICE [[RAKSHA KAVACH]****-NIL-**

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

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

1. 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 VDU himself when on duty and shall not permit any unauthorized person to manipulate or handle VDU and block telephone.
- iii) He shall keep the station master's control keys 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 SM/SS.

2. SS/SM/VDU:

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

- i) He shall come on duty after taking complete rest and shall not perform his duty under the influence of drugs or intoxicants.
- ii) When on duty or when called upon to do so, in case of emergency, he shall be responsible for obtaining and granting line clear to trains as per SWR&GR.
- iii) He shall handle the control panel himself when on duty and shall not permit any unauthorized person to manipulate panel.
- iv) He shall keep the SM's control panel in his personal custody whenever, he is required to leave his office even for a short duration.

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- v) While coming on duty, he shall ensure that all points and signals are in good working order and all the registers, records, pertaining to train passage are completed in all respect before taking over the charge.
- vi) He shall personally ensure that conditions for taking 'off' the reception signals are fulfilled and the clearance of line is verified as per SWR before actually pressing the relevant button for taking off the signals.
- vii) He shall ensure from indications available in the panel that the signals are burning brightly and are giving correct indications.
- viii) He shall ensure that proper indications of points, signals, track circuits crank handle, level crossing gate etc., are displayed at their proper places.
- ix) He shall ensure that all Shunting operations are carried out as per extant orders and GR 5.19 and SRs thereof.
- x) He shall inform the Technician/JE/SE (Sig) in writing or through a written message, any failure of track/signals/points/keys or panels etc. and shall invariably enter these failures in Signals Failure Register.

3. 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 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.

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

4. TRAFFIC GATE MAN:

- i. He is responsible to operate L.C. Gate at his end.
- ii. He shall attend to the call of SM on duty and do the work entrusted by the SM on duty connected to gate operation.
- iii. He shall promptly report any abnormality to SM on duty.
- iv. He shall also protect the gate when required as given in gate working rules.
- v. He shall do all necessary functions related to gate working as stated in gate working rules.
- vi. He shall follow OM Chapter-2(g).

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

APPENDIX 'E' TO STATION WORKING RULES OF KANTAKAPALLI STATION**ESSENTIAL EQUIPMENT**

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

Sl. No	Description	Quantity
i)	Detonators	10
ii)	LED based Tri Color flashing torch.	3(1 Spare)
iii)	Hand Signal Flag sets	3(1 Spare)
iv)	Safety chains with Pad locks	9
v)	Clamps with Padlocks	12
vi)	Iron Skids	9
vii)	Wooden Wedges	4
viii)	Fire & Sand buckets	6
ix)	Fire Extinguishers	2
x)	First aid box	1
xi)	Blanket	1

APPENDIX 'F' TO STATION WORKING RULES OF KANTKAPALLI

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

.....NIL.....