

**EAST COAST RAILWAY**  
**WALTAIR DIVISION**

**STATION WORKING RULES OF DANTEWARA STATION (B.G)**

Date of Issue: \_\_\_\_\_.

Date brought into Force: \_\_\_\_\_.

**NOTE:** The Station Working Rules must be read in conjunction with General and subsidiary Rules, Operating Manual and Block Working Manual. These rules do not in any way supersede any rules in the above Rule Books.

**1. STATION WORKING RULES DIAGRAM:**

(i) The Station Working Rule diagram no: SI/WRD/23077.

(ii) CSTE/East Coast Railway Signal Interlocking Plan No: SI/23077.

**2. DESCRIPTION OF STATION:**

**2.1 GENERAL (LOCATION):**

a)Name of the station:	DANTEWARA
b)class of station:	'B' class
c)section:	Kottavalasa - Kirandul
d)Double line/Single line:	Single line
e)Electrified/Electrified:	Electrified
f)Gauge BG/MG/NG:	BG
g)Railway:	East Coast Railway
h) Route	'D' special
i) Situated at	Km-402.128
j) Reckoned from	Kottavalasa
k) No. of cabins	Centrally operated panel.

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

**2.2.1 BLOCK STATIONS ON EITHER SIDE AND THEIR DISTANCES:**

Sl.no	Adjacent block-section	Distance	Direction
a	GIDAM	7.318 km	KTV end
b	KAMALUR	12.35 km	KRDL end
c	Provision of IBS	NIL	NIL
d	Automatic signal	NIL	NIL
e	DK station/Out line sidings	NIL	NIL
f	Passenger Halt	NIL	NIL

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

Between stations	The point from which Block section commences	The point at which Block section ends
DWZ - KMLR (UP direction)	UP advanced starter signal no.17 of DWZ	UP Home signal of KMLR
DWZ - GIZ (DN direction)	DN Advanced starter signal no.18 of DWZ	DN Home signal of GIZ

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2.4 GRADIENTS:

(a) From the centre of the Station Building towards KMLR:

Chainage in meters from CSB		Stretch	Gradient
From	To		
0.000	566M	566M	1 in 1000 falling
566M	1329M	763M	1 in 250 falling
1329M	3218M	1889M	Level
3218M	Into section	----	1 in 100 raising

(b) From the centre of the Station Building towards GIZ:

Chainage in Meters from CSB		Stretch	Gradient
From	To		
0.000	958M	958M	1 in 1000 raising
958M	1872M	914M	1 in 100 raising
1872M	2675M	803M	1 in 150 raising
2675M	Into section	----	1 in 100 raising

2.5 (A) LAYOUT:

Sl. No	Running/Non Running line	Electrified/Electrified
1	Running line / Route-1 (loop line)	Electrified
2	Running line / Route-2 ( Main line)	Electrified
3	Running line / Route-3 (Goods loop)	Electrified
4	Running line / Route-4 (Goods loop)	Electrified
5	Non Running line / Goods siding	Electrified
6	Non Running line / Contractor siding	Non-Electrified
7	Non Running line / Tower wagon siding	Non-Electrified
8	Non Running line / Shunting Neck	Electrified

(B) PLATFORMS:

(a) A low level passenger platform measuring 244.5Mx6.5M is provided on line no.1 (loop line).

(b) A goods platform measuring 108.30M in length is provided on Goods siding.

2.5.1 DIRECTION OF MOVEMENT AND HOLDING CAPACITY IN CSR:a. DIRECTION OF MOVEMENT:

Trains coming from Gidam and proceeding towards Kamalur are UP trains.

Trains coming from "Kamalur and proceeding towards Gidam are DOWN trains.

b. HOLDING CAPACITY IN CSR:

Line no	Designation	CSL	Electrified/Electrified	CSL starting & destination
Line no. 1	Loop line	723.20 M	Electrified	STR to STR
Line no. 2	Main line	713 M	Electrified	STR to STR
Line no. 3	Goods loop	686 M	Electrified	STR to STR
Line no. 4	Goods loop	686 M	Electrified	STR to STR

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**2.5.2 NON-RUNNING LINES AND THEIR CAPACITY IN CSR:**

(a) A Goods siding measuring 271.9M (PT-DS) takes off from Goods loop (line no.4) at GIZ end as well as KMLR end of the yard and is isolated by derailing switches at both ends. The entrance points and corresponding derailing switches are released by succession keys through SM's control button no. 27 on panel. The entrance points are operated locally by arc lever provided at site through key 'M' and DS points are operated through keys 'N1' and 'N2' respectively in succession from entrance points HPL. When this control no. 27 released reception, dispatch and shunt signals for line no.4 gets locked in their normal position.

(b) A Contractor's siding measuring 358M (DS-DE) takes off from Goods siding at Ch:94.4M at KMLR end of the yard and is isolated by derailing switch at Ch:227.5M. The entrance point and corresponding derailing switch are operated locally by arc lever provided at site.

(c) A Tower wagon siding from loop line (line no.1) at KMLR end of the yard in rear of Up starter signal no-9 and is isolated by derailing switch. The entrance point and corresponding derailing switch are released by key through SM's control button no. 28 on panel. The entrance point as well DS point, both are operated locally by a common arc lever provided at site through key 'X'. When this control no. 28 released reception, dispatch and shunt signals for line no.1 gets locked in their normal position.

(d) A shunting neck measuring 280M (SH-SB) takes off from overrun line of Goods loop line (line no.3) at KMLR end of the yard and is isolated by a derailing switch. The entrance point / derailing switch is motor operated point SM's control button no. 20 on panel.

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

NIL

**2.6 LEVEL CROSSINGS:**

(i) One 'A' class interlocked LC gate is situated at km 403/5-6 LC No. KK-103 between DWZ-KMLR. Telephone connection is provided between GK and SM/DWZ.

(ii) One 'C' class LC gate is situated at km 404/11-12, LC No. KK-104 between DWZ - KMLR. Telephone connection is provided between GK and SM/DWZ.

Details of LC gates is described in Appendix-A.

**3. SYSTEM AND MEANS OF WORKING:**

- i) System of working: Absolute Block system.
- ii) Block instruments: Single line token less Block instruments (Handle type) are provided for block sections between DWZ-GIZ and DWZ-KMLR
- iii) Co-operative/Non co-operative: Co-operative.
- iv) Provision of block telephone attached to block instruments connecting the adjacent block sections DWZ-GIZ and DWZ-KMLR.
- v) Custody of keys of block instruments: Block instrument is provided with double locking. One key will be with SM and other key will be with S&T maintainer.

**4. SYSTEM OF SIGNALLING AND INTERLOCKING:**

- 4.1 a) Standard of Interlocking: The station is provided with Std-III panel interlocking.
- b) Type of signals: Multi aspect colour light signals. The aspects and indications of the MACLS is governed by GR 3.08(4)(b).
- c) The station is provided with central panel interlocking (PI) all signals and points are electrically operated from panel provided at SM's office.

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- d) Method of operation: Panel is provided in the Station Master's office to control all signals and points.
- e) Provision of track circuit on running lines: Track circuits are provided in the yard as 1AT, 1T, 18AT, 21AT, 21BT, 23BT, 25T, L<sub>1</sub>T<sub>1</sub>, L<sub>1</sub>T<sub>2</sub>, L<sub>1</sub>T<sub>3</sub>, L<sub>2</sub>T<sub>1</sub>, L<sub>2</sub>T<sub>2</sub>, L<sub>2</sub>T<sub>3</sub>, L<sub>3</sub>T<sub>1</sub>, L<sub>3</sub>T<sub>2</sub>, L<sub>3</sub>T<sub>3</sub>, L<sub>4</sub>T<sub>1</sub>, L<sub>4</sub>T<sub>2</sub>, L<sub>4</sub>T<sub>3</sub>, 22AT, 22BT, 24T, 26BT, 17AT, 2T, 2AT and 1GT.  
When a signal is cleared, the particular route appears with white strip of lights and 'Red' light appears as the train occupies the track circuit.
- f) Calling-on signals/IBS: Calling-on signals are provided below UP & DN Home signals.
- g) The panel is provided with SM's key under the personal custody of Station Master on duty.

h) CRANK HANDLE:

When the point fails to operate by the route setting operation through panel, 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.

Sl. No	CRANK HANDLE	CONTROL POINTS
1	CH1	21A/B, 23A/B
2	CH2	22A/B, 26A/B
3	CH3	25A/B
4	CH4	20, 24

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

This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points.

The failure of motor operated points must be ensured by physical checking that there is no obstruction. SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency

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

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

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

The Relay room is provided with two independent locks vide OM 1.14. The key of one lock is retained under the personal custody of SM on duty while the key of other lock is with the signal maintainer. Whenever required by the maintainer for attending failure or maintenance work, SM on duty shall hand over his key to the maintainer. On completion of the work, maintainer shall return back the key to the SM on duty after closing and locking of the Relay room. The transactions of the key shall be recorded in the Relay room key register maintained at the Station for this purpose promptly. While taking over the key from the SM on duty, signal maintainer shall endorse that he will not interfere the safe working. Otherwise SM on duty shall treat the gear as non interlocked.

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**(A) POWER SUPPLY:**

Normal: AT-230V, 50Hz.

1<sup>st</sup> Stand by:- Local supply (Chattishgarh State Electricity Board Supply)

2<sup>nd</sup> standby: DG set.

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

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

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

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

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

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

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

(e) Whenever there is a failure of power supply in AT or Local the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of power supply AT and Local and make an entry in the Station Diary duly initiating action for rectification of failure, if any.

**5. TELECOMMUNICATIONS:**

- 1) Telephone attached to Block instruments connected to adjacent block stations on either end.
- 2) Magneto phone is provided to adjacent block stations on either side.
- 3) The station is connected to KRDL-KRPU control circuit.
- 4) The station is connected to KRDL-KRPU Traction power control circuit.
- 5) BSNL Telephone.
- 6) 25 watts VHF set.
- 7) Magneto phone to CH location boxes at either end.
- 8) Telephone connection is provided between SM's office and 'A' class LC gate at km 403/5-6, LC no. KK-103.
- 9) Telephone connection is provided between SM's office and 'C' class LC gate at km 404/11- 12, LC no. KK-104.
- 10) Telephone connection is provided between SM's office and T.W.siding Location box.
- 11) Telephone connection is provided between SM's office and Goods siding Location box.

**5.1 FAILURE OF COMMUNICATIONS:**

- a) In the event of partial failure of communication SR 6.02.06 shall be observed.
- b) In the event of total failure of communication SR 6.02.04 shall be observed.

**6. SYSTEM OF TRAIN WORKING:****6.1 DUTIES OF TRAIN WORKING STAFF:**

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

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

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

SS	1(one)
SM	3(Three)
Traffic points men	3(Three)
SCLM	1(one)

**STAFF IN EACH SHIFT:**

SS	1 in day shift
SM	1 in each shift
Traffic points man	1 in each shift
SCLM	1 in day shift

Note: Staff deployed at the station shall follow the roster issued by Sr.DPO/WAT.

**6.1.2 RESPONSIBILITY FOR ASCERTAINING CLEARANCE OF THE LINE AND ZONES OF RESPONSIBILITY:**

The SM on duty is responsible to ascertain the clearance of the nominated line between first facing point and advanced starter signal in each direction.

The private number book should be under the custody of SM on duty who is authorized to use it.

**6.1.3 ASSURANCE OF STAFF IN ASSURANCE REGISTER:**

Any staff before taking independent charge of duties or any staff who is away from his duty for the period of 15 days or more shall sign in the Assurance Register for having understood the contents. However, in the event of any corrections or modifications in the SWR is involved, the assurance of all the staff who ever is entrusted with the work of train passing duty shall be obtained afresh in the assurance register by the in-charge of the station before they are allowed to work vide SR 5.01.02.

**6.2 CONDITIONS FOR GRANTING LINE CLEAR:**

- The conditions laid in GR. 8.03(2)(a)(b)(c)(ii) shall be complied with the SM on duty before line is considered clear and line clear is granted.
- Before granting line clear for a train the SM on duty shall personally ensure that the reception signals pertaining to a train are in the "ON" position and burning properly vide GR 3.49(4).
- Line shall not be considered clear and line clear shall not be granted to an up train unless:
  - Whole of the last preceding up train has arrived completely.
  - UP home signal No. 1 is put back to ON and the line is clear up to Down advanced starter No. 18.
- Line shall not be considered clear and line clear shall not be granted to a down train unless:
  - Whole of the last preceding DN train has arrived completely.
  - Down home signal No. 2 is put back to ON and the line is clear up to UP advanced starter No. 17.

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

NIL

**6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE:**

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

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

6.2.1.2 RECEPTION OF TRAIN ON BLOCKED LINE:

The rules laid down in GR 5.09 and relevant SRs shall be followed.

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

Not applicable

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE:

Not applicable

6.2.1.5 DISPATCH OF TRAIN FROM LINE PROVIDED WITH COMMON STARTER SIGNAL:

Not applicable

6.2.1.6 ANY OTHER SPECIAL CONDITIONS SHOULD BE MENTIONED GIVING REFERENCE TO THE G & SR:

“Nil”.

6.3 CONDITIONS FOR TAKING ‘OFF’ APPROACH SIGNALS:

(i) Conditions for taking ‘OFF’ approach signals are governed by GR.3.40 (1) (b), 3.40(2) (b), 3.40(3)(b), 3.40(4). SR 3.40.01 and relevant SRs there to.

6.3.1 RESPONSIBILITY OF STATION MASTER FOR RESTORATION OF SIGNALS TO ‘ON’:

Station Master should ensure that the signal is put back to ‘ON’ after passage of train as per GR 3.36.02.

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

A. According to the existing interlocking at this station, the simultaneous reception and despatch of trains is permitted as stipulated below.

1	Reception of a UP train on line No. 1 (loop line) setting line to sand hump.	AND	(a) Reception of an DN train on Line No. 3 / 4 (goods loop lines)  OR (b) Dispatch of another UP train from Line No. 2 or 3 or 4.
2	Reception of a UP train on line No. 3 or 4 (Goods loop lines) setting line upto DS point no-20.	AND	(a) Reception of an DN train on Line No. 1 (loop line)  OR (b) Dispatch of another UP train from Line No. 1
3	Reception of a DN train on line No. 1 (loop line) setting line to sand hump.	AND	(b) Reception of an UP train on Line No. 3 / 4 (goods loop lines)  OR (b) Dispatch of another DN train from Line No. 2 or 3 or 4.
4	Reception of a DN train on line No. 3 or 4 (Goods loop lines) setting line to sand hump on L3.	AND	(b) Reception of an UP train on Line No. 1 (loop line)  OR (b) Dispatch of another DN train from Line No. 1.

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B. Adequate Distance: To take off the home signal for admission of a train the adequate distance (overlap) as mentioned below shall be kept clear in terms of GR 3.40.(3)(b) and SR thereto.

CLEARING OF ADEQUATE DISTANCE				
LINE NO.	UP TRAINS		DOWN TRAINS	
	FROM	TO	FROM	TO
Line No. 1 (Loop line)	UP Loop line Starter No. 9.	The end of sand hump or UP Adv starter Signal No. 17	DN Loop line Starter No. 10.	The end of sand hump or DN Adv starter Signal No. 18
Line No.2 (Main Line)	UP Main Line Starter No. 15	UP Advanced starter No. 17	DN Main Line Starter No. 16.	DN Advanced starter No. 18.
Line No.3 (Goods loop)	UP Goods loop Starter No. 11.	Up to DS point no- 20 or UP Adv. Starter Signal No. 17.	DN Goods loop Starter No. 12.	To the end of sand hump or DN Advanced starter No. 18.
Line No.4 (Goods loop)	UP Goods loop Starter No. 13.	Up to DS point no- 20 or UP Adv. Starter Signal No. 17.	DN Goods loop Starter No. 14.	To the end of sand hump on L3 or DN Advanced starter No. 18.

#### 6.5 COMPLETE ARRIVAL OF TRAINS:

For Section DWZ-GIZ & DWZ-KMLR:

Entire Block section between DWZ-GIZ and DWZ-KMLR is provided with Digital axle counter.

For section DWZ-GIZ:

A pair of Digital axle counter is provided between DWZ-GIZ one at just beyond DN advanced starter signal No.18 of DWZ and another beyond 180M of DN home signal of GIZ for last vehicle verification.

For section DWZ-KMLR:

A pair of Digital axle counter is provided between DWZ-KMLR one at just beyond UP Advance starter signal no.17 of DWZ and another beyond 180M of UP home signal of KMLR for last vehicle verification.

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

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

A resetting arrangement is provided in the SM office to reset the system to normal position in case of failure of axle counter. The resetting to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The

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resetting can be accomplished only with the co-operation of SMs at either end of the block section.

**NOTE:**

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

6.6 DISPATCH OF TRAINS:

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

b) ISSUE OF CAUTION ORDERS:

Whenever in consequence of the line being under repairs or for any other reasons special precautions are necessary. A Caution Order detailing the Kilometres 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 WORKING IN CASE OF FAILURE:

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

a. TRACK CIRCUITS:

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

b. AXLE COUNTER:

If the axle counter fails between the block sections, resetting procedure will be adopted as per Para 26.0 of SWR (APP-B) if the axle counter indication does not appear 'GREEN & continues to show 'RED' condition after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SE (signal) for rectification.

c. POINTS:

Procedure prescribed in GR 3.77 and relevant SRs shall be followed.

d. BLOCK INSTRUMENTS:

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

e. RECEPTION OF A TRAIN ON OBSTRUCTED LINE:

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

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

NIL

g. DEFECTIVE SIGNALS:

Whenever signals become defective, the procedure laid down in GR & SR shall be followed. [Refer GR 3.68 to 3.71, 3.80 and SR 3.68.01©] In the event of signal showing no lights, station master on duty shall before giving line clear initiate action in accordance with the procedure laid down in GR and relevant SRs.

[Refer GR 3.51, 3.69, 3.49(4), 3.68 to 3.77]

h. DEFECTIVE/DAMAGED POINTS:

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

Station master on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency crank handle register shall be maintained by SM at the station as per para 20.06(d) of the Operating manual. Correct setting, clamping and padlocking of the points devolve on SM on duty. (Details of use of crank handle as per Appendix-'B'). The cases of the failures of the point should be promptly reported to the concerned signal maintainer/JE/SE (signal) for immediate rectification.

6.9 PROVISIONS FOR WORKING OF MOTOR TROLRIES / MATERIAL LORRIES:

- a. Motor trolleys shall be worked as per GR 15.25 and SRs there to, BWM 5.11(1) (2), 5.12, 5.13, 5.14(2) (a) and circulars and orders issued from time to time. Material trolleys shall be worked as per GR 15.27 and SRs there to and in accordance with the provisions of Block Working Manual.
- b. Push trolleys shall run under block protection only vide SR 15.25.09(e).
- c. Shunting key of token less block instrument at dispatch station as well as receiving station of the motor/push trolley shall be taken out and kept in the personal custody of SM on duty in addition "trolley on line" board shall be hung up on the handle of the block instrument. Special instructions contained in the circular No.19 of 6.4.88 should be followed.

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

7. BLOCKING OF LINE:

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23 and SR 5.23.01]

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A. SECURING OF VEHICLES: -

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

NOTE:

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

B. USE OF REMINDER BLOCK COLLARS:-

Whenever any running line is blocked or when a train is stopped to cross another train or detained for any other reason, even for a short while or during shunting operations, reminder collars shall be used by the SM on duty on the push buttons concerned.

**8. SHUNTING**8.1 GENERAL PRECAUTIONS.

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

NOTE:

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

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:

Shunting in the face of an approach train is strictly prohibited vide GR 8.09 and SR thereto.

8.3 PROHIBITION OF SHUNTING, SPECIAL FEATURES IF ANY:

- (i) Hand shunting is prohibited at both ends of the yard vide GR 5.20.
- (ii) Fly shunting is prohibited at both ends of the yard vide SR 5.21.01 (c)
- (iii) For shunting in both ends of the yard, engine should be leading towards the falling gradient.

8.4 SHUNTING ON SINGLE LINE:

- i) Within station section: Governed by GR 8.10.
- ii) Between last stop signal and opposite first stop signal: Governed by GR 8.12.
- iii) Beyond opposite first stop signal: Unless the line is blocked back, the line outside the first stop signal shall not be obstructed vide GR 8.13.
- iv) During failure of Block instrument: Block back messages shall be exchanged between Station master at either end of the section which is intended to be obstructed supported by private number. Both the Station Masters shall fix line block collars on respective Block Instruments and shall continue shunting provided the Block section is clear.

8.5 SHUNTING ON DOUBLE LINE:

Not applicable.

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

Not applicable to this station.

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**9. ABNORMAL CONDITIONS:**

(Procedure to be followed for working trains during abnormal working).

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

- i) During partial interruption/failure of electrical communication instruments SR 6.02.06 shall be followed.
- ii) The authority to proceed in the occupied block section in case of obstruction of line or accident etc is T/A-602 and SR 6.02.05 shall be followed.
- iii) Trains delayed in the block section: GR 6.04 and relevant SRs shall be followed.
- iv) Failure/ passing of IBS signed in ON position: Not applicable.
- v) Failure of Axle Counter Block/BPAC: Procedure to be followed vide GR 14.13 & 14.14.
- vi) Failure of MTRC: Not applicable.

b) (i) PROCEDURE FOR EMERGENCY OPERATION OF POINTS BY CRANK HANDLE.

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

Crank handle operation is interlocked with the signalling and interlocking system at this station. Key of crank handles normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals leading over the points are in the Normal position and the route is not locked for whatever reasons. Crank Handle can be released by operating common 'TRANS' push button and concerned Crank handle control push button simultaneously. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted at both ends of the yard.

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

(ii) Procedure for emergency operation of points with point zone Track circuits failure and emergency route release:

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

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

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

c) CERTIFICATIONS OF CLEARANCE OF TRACK BEFORE CALLING ON SIGNAL OPERATION ARE INITIATED:

Before taking off calling on signal clearance of the line on which the train is to be admitted and to be ensured by SS/SM on duty.

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d) REPORTING FAILURE OF POINTS, TRACK CIRCUITS/AXLE COUNTERS AND INTERLOCKING.

- i) All failure whether relevant to points, signals, track circuits or block instruments shall be promptly reported by SM on duty to the concerned S&T maintainer through a memo immediately and shall resume normal working only after rectifying the concerned gear at fault and obtained a memo from S&T maintainer concerned.
- ii) Such failures are to be recorded in the signal failure register, SM's diary, TSR and urgent order book.

9.1 TOTAL FAILURE OF COMMUNICATIONS:

In the event of total failure of communications, SR 6.02.04 shall be observed.

9.2 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

Not applicable

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

- a) During total interruption of communications, while allowing the trains under authority to proceed without line clear, the relevant provisions under SR 6.02.04 shall be followed.
- b) The last stop signal shall not be taken 'OFF' but an authority to pass the last stop signal at 'ON' in the prescribed Form T/B 602 shall be issued.
- c) ISSUE OF BLOCK TICKET (T/A 602):  
Rules and regulations for working trains on an obstructed line in case of obstruction or an accident on the authority of block ticket (T/A-602) when communications are available shall be followed, in accordance with the provisions of SR 6.02.05.

10. VISIBILITY TEST OBJECT:

The signal lights of UP starter signal No.9 and DN starter signal No. 10 of Loop line (L-1) are earmarked to serve as visibility Test object during day and night vide GR.3.61(2)(b)(iii).

11. ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-'E')

12. FOG SIGNALS AND STAFF NOMINATED TO BE CALLED IN CASE OF FOG:

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

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

12.1 STATION DETONATOR REGISTER (OPT/124):

A Register regarding detonator is maintained at the station.

12.2 INSTRUCTIONS:

- a. This register contains the following parts.

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

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- Part – II: Particulars of receipt and stock of detonating (fog) signals at the station to be filled in whenever detonators are used or received.
- Part – III: Periods of fogs, fog signalmen on duty and details of detonators used.
- Part – IV: Particulars of issue and testing of fog signals at the station.

- b. In charge of the station shall ensure that the information maintained in the register is kept up to date and is accurate in all respects.
- c. Transportation inspectors shall check the registers and also the stock of detonators on hand each time they visit the station and initial with date as an indication having done so.

**13. APPENDICES:**

APPENDIX 'A'	Working of level Crossing gates.
APPENDIX 'B'	System of signalling and interlocking and Telecommunications
APPENDIX 'C'	Anti Collision Device (Raksha Kavach).
APPENDIX 'D'	Duties of Train Passing Staff and Staff in each shift.
APPENDIX 'E'	List of Essential equipment provided at the Station.
APPENDIX 'F'	Working of DK stations, halts, IBH, IBS and outlying sidings.
APPENDIX 'G'	Rules for working of trains in electrified sections.

**CERTIFICATE**

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

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**EAST COAST RAILWAY**  
**WALTAIR DIVISION**

**APPENDIX 'A'**

**WORKING OF LEVEL CROSSING GATES DANTEWARA STATION:**

**1. GENERAL:**

**1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:**

- |   |  |
|---|--|
| 1. Number of Level Crossing Gate:                               | L.C.No-KK-103  |
| 2. Engineering or Traffic Gate:                                 | Engineering ('A'-class)                                |
| 3. Under control of Station Master/<br>Permanent Way inspector: | SSE [P]/BCHL   |
| 4. Location at KM:  | 403/5-6  |
| 5. At Station:  | Nil  |
| 6. In between station:  | DWZ-KMLR   |
| 7. BG/MG/NG:  | BG   |
| 8. Single line/Double line/Multiple line:                       | Single Line  |
| 9. Normal Position:   | Open to Road Traffic.                                  |
| 10. Inter Locked/Non-Interlocked:                               | Interlocked.   |
| 11. Means of interlocked:                                       | MACLS  |
| 12. Provision of Gate signal at KMs:                            | (i) DN Gate stop signal 2GS at km: 403/10              |
| 13. Signalling arrangement:                                     | Nil  |
| 14. Means of communication-<br>Telephone/ Bell etc:             | Telephone connected with DWZ station                   |
| 15. Width of level crossing gate:                               | 5.5 Mtrs.  |
| 16. Type of road {NH/SH/Other}:                                 | SH   |
| 17. Name of road:   | Sunhade Road   |
| 18. Metalled/Non-Metalled:                                      | Metalled   |
| 19. Approach road:  | Metalled   |
| 20. Width of the road:  | 5.5 Mtr  |
| 21. Angle of road crossing [In case of the skew gates]: ---     |  |
| 22. Road gradients {if any}:                                    | North-East side: 1 in 30<br>South-West side: 1 in 30   |
| 23. Road alignment {Straight/Curve}:                            | North-East side: Straight<br>North-West side: Straight |
| 24. Provision of height gauge:                                  | Provided   |
| 25. Type of Barriers:   | Coupled lifting barriers winch operation.              |
| 26. Length of check rail:                                       | 9.5 Mtrs   |
| 27. Road surface in L-Xing gate:                                | CC Blocks  |
| 28. Length of Rumble strip /speed breakers:                     | 5.5Mtrs.   |
| 29. Road signs:   | Provided.  |
| 30. Speed breaker indication board:                             | Provided.  |
| 31. TVU:  | 158869 of 08.03.2013                                   |
| 32. Censes next due on:   | 08.03.2016   |
| 33. Demarcation for placement of detonators:                    | Provided.  |
| 34. No. of Gate men working:                                    | Two  |

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35. Nearest Railway Medical Assistance : Kirandul.  
 36. Nearest private Medical Assistance {If Any}: NMDC Hospital.  
 37. List of equipment available Yes/No: Yes.

1.2 EQUIPMENTS:

ITEMS	QUANTITY/NUMBERS
1 Hand Signal Lamp Tri Colour.	3 Nos.
2 Hand Signal Flag Green.	1 No with mounted stick
3 Hand Signal Flag Red.	3 Nos.
4 Banner Flag Red.	3 Nos.
5 Posts for exhibiting red banner flag	2 Nos
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in each case
8. Gate lamps	2 Nos.
9. Tommy Bar	1No
10. Mortar Pan	1No
11. Spade/Fowarh	1No
12. Rammer	1No [in case of asphalted road this may not be provided.]
13. Pick Axe	1No [in case of asphalted rod this may not be provided.]
14. Tin case for flags	1No
15. Can for Oil	1No
16. Water Pot/Bucket	1No
17. Canister for Muster Roll	1No
18. Set of spare spectacles of gate man wearing glasses.	1No
19. Board demarcation protection of level crossing gate diagram in case of obstruction	1No
20 .Bucket	1No
21. Whistle	1No
22. Wall Clock	1 No
23. A small size chain in case of failure of Boom/Lock	2 Nos

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.

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**1.4 MODE OF OPERATION:**

Gate shall normally kept open to the road traffic whenever it is required to close the gate SM on duty shall inform the gate man on duty about the direction and description of the train intended to receive or dispatch supported by private number. Gate man on duty shall ensure clearance of road traffic close and lock the gate. There after he will perform the following procedure to take off the Gate home signals as the case may be.

(i)Key 'P' is obtained from winch after closing the L.C. gate and releases Lever-GF.

(ii)GF when reversed effects boom locking & releases key-Q.

(iii)Key 'Q' is inserted in EKT and turned.

(iv)Key 'Q' with switch No. 1GS when reversed releases UP Advanced starter signal No. 17.

(v)Key 'Q' with switch No. 2GS when reversed releases DN Gate stop signal (2GS).

(vi)Whenever slot 1GS is given to SM, key 'Q' can be extracted from EKT, only when track circuit 2T, 2AT, 1GT is clear or after 2 minutes time delay after pressing of Emergency gate release push button on emergency which is available on gate panel.

**1.5 DUTIES OF GATEMEN:****ALERTNESS:**

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

**[2] POSITION DURING PASSAGE OF TRAINS:**

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

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

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

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

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

**[3] ROUTINE DUTIES OF GATEMAN:**

[i]Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunshine.

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

[iii] 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.

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

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

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

[vii] 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.

[viii]At the gate whose signal has become defective the Gateman shall close and lock the lifting barrier 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.

[ix]Gateman shall wear badge and prescribed uniform while on duty at level Crossing gate.

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

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

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

[xiii] Gateman shall see that the channel for the flange of the wheel is kept clean.

[xiv] Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.

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

[xvi] 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.

[xvii] Gateman shall prevent tress passing by persons or cattle to the maximum extent.

**[4] ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:**

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

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

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

[iii] If Loco pilot/guard fails to take notice, gateman shall not stop, immediately inform the station master, if connected on telephone, to take appropriate action under exchange of private number.

[iv] In case of trains parting, gateman shall not show stop hand signal but shall show prescribed signal for trains parting.

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

[vi] In case of trains does not stop, gate man shall immediately inform the station master, if connected on telephone, to take appropriate action under exchange of private number.

**[5] ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:**

[i] In case of an obstruction at the level crossing gates, Gateman shall maintain the gate signals, if any in the 'ON' position.

[ii] Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the station master on duty, if connected on telephone, regarding the defects/obstructions at the gate, under exchange of private number.

[iii] If there is no response from the station master after two or three attempts, he shall first protect the gate and then inform on phone.

The gateman shall protect the line as under:

**A) ON SINGLE LINE SECTION:**

(i) Gateman shall plant a red banner flag by day and red light by night 5meters 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 5meters 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 600meters and place one detonator on the line. There after he shall proceed to a distance 1200meters from the level crossing gate and place 3 detonators on the track 10meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

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(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.

(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 as he can go.

(viii) Thereafter, he shall warn the loco pilot and stop the approaching train by waving his red flag by day and red hand signal lamp by night repeatedly.

**[B] OTHER ACTION TO BE 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 the track, or if lifting barrier or any other part of the gate foul 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 the road vehicle, vehicle number, name of the Driver, owner and relay these details to the nearest Station Master or Permanent way inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

**[6] ENGINEERING ITEMS:**

Please Para 916, 918, 919 of IRPWM for visibility requirement at level crossings, provision of speed breakers on the approach roads of level crossing and census of traffic at level crossings.

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**APPENDIX 'A'****Annexure-I****WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATE INTERLOCKED WITH GATE SIGNALS, PROVIDED WITH TELEPHONE WITH NORMAL POSITION "PEN TO ROAD TRAFFIC" FOR L.C. GATE AT KM 403/5-6 BETWEEN DWZ-KMLR.****(General instructions are common for all type of Manned Level Crossing)****1. MODE OF OPERATION:**

Gate shall normally kept open to the road traffic whenever it is required to close the gate SM on duty shall inform the gate man on duty about the direction and description of the train intended to receive or dispatch supported by private number. Gate man on duty shall ensure clearance of road traffic close and lock the gate. There after he will perform the following procedure to take off the Gate home signals as the case may be.

- (i)Key 'P' is obtained from winch after closing the L.C. gate and releases Lever-GF.
- (ii)GF when reversed effects boom locking & releases key-Q.
- (iii)Key 'Q' is inserted in EKT and turned.
- (iv)Key 'Q' with switch No. 1GS when reversed releases UP Advanced starter signal No. 17.
- (v)Key 'Q' with switch No. 2GS when reversed releases DN Gate stop signal (2GS).
- (vi)Whenever slot 1GS is given to SM, key 'Q' can be extracted from EKT, only when track circuit 2T, 2AT, 1GT is clear or after 2 minutes time delay after pressing of Emergency gate release push button on emergency which is available on gate panel.

**2. EXCHANGE OF PRIVATE NUMBER:**

- (i)Immediately after departure of the train from the adjacent station, SS/Dy.SS shall advise the gateman through telephone, the number, description, direction and expected time of passage of the train at the gate.
- (ii)If the telephone is connected to the station at the receiving end, this advice shall be given by the SS/Dy.SS to the gate man, under exchange of private number, as soon as he receives train entering section advice from the dispatching station.
- (iii)If the actual running time of the train from either end of the section is less than 10 minutes SS/Dy.SS will convey this advice to the gateman before obtaining /granting line clear.
- (iv)It should be the duty of the gateman to ensure that the gate is closed in time, so that there is no detention to the train and excessive detention to road traffic.

**3. FAILURE OF TELEPHONE COMMUNICATION:**

When Telephone communication fails or it does not get any response from the gate man despite 2 or 3 attempts, the following procedure should be adopted.

- [i] Station Master at the dispatching end shall assure caution order to the Loco Pilot of the departing train.
- [ii]The caution order shall advice the Loco Pilot to whistle continuously and approach the gate cautiously.
- [iii]The Loco pilot shall be instructed to pass the gate cautiously, on being hand signal by the gate man. If hand signal is not seen, Loco pilot should be prepared to stop short of the gate and depute his assistant Loco pilot to see the condition of the gate. If the gate is closed, the Asst. Loco pilot will give the alright signal and if the gate is not closed, the Asst. Loco pilot must close the gate and then give alright signal. In the absence of the Asst. Loco pilot, the Loco pilot may take the assistance of Asst. Guard/Guard.
- [iv] In case of an approaching train, the SM shall advise the SM at the dispatching end, under exchange of private number, that the Telephone at the gate has failed.
- [v] The Station Master at the dispatching end shall then issue a caution order to the Loco pilot before dispatching a train in the block section from his end.

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- [vi] Station Master shall also advise the gate man through gang man/Patrol man or the Loco pilot of the first train that the Telephone has become defective
- [vii] He shall also advise S&T staff responsible for maintenance of the Telephone to rectify the same at the earliest.
- [viii] Normal working will be resumed only after S&T staff rectify the Telephone and issue reconnection/fit memo for the same.

**4. 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 put back gate signals to 'ON' position.
- [ii] He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate for this purpose.
- [iii] Immediately after this, the gateman shall advise the Station Master on duty regarding the defects/obstructions at the gate, under exchange of private number.
- [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 approaching train and protect the gate as stipulated in General instructions for duties of gateman under item No.1.5 [5].
- [vi] Thereafter he shall protect the gate from the other direction also.
- [vii] He shall note down the particulars of the road vehicle, name of the 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 obstruction.
- [ix] After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- [x] Station Master shall then issue a caution order to Loco pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the gateman, If the gate is broken, but is clear of any obstruction.
- [xi] Gateman shall secure the gate against road traffic by means of safety chains and padlocks, and there after exhibit green hand signal, if the gate is not obstructed.
- [xii] Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- [xiii] Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection/fit memo for the same.

**5. OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:**

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

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**APPENDIX 'A'****WORKING OF LEVEL CROSSING GATES AT DANTEWARARA STATION****1. GENERAL:****1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:**

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

- |   |                                       |
|---|---------------------------------------|
| 1. Number of Level Crossing Gate:                           | KK-104                                |
| 2. Engineering or Traffic Gate :                            | Engineering gate ('C'-class)          |
| 3. Under control of Station Master/Permanent Way inspector: | SSE/P/BCHL                            |
| 4. Location at KM :   | 404/11-12                             |
| 5. At Station :   | Nil                                   |
| 6. In between station:                                      | DWZ-KMLR                              |
| 7. BG/MG/NG :   | BG                                    |
| 8. Single line/Double line/Multiple line:                   | Single Line                           |
| 9. Normal Position:   | Close to Road Traffic.                |
| 10. Inter Locked/Non-Interlocked :                          | Non-Interlocked.                      |
| 11. Means of interlocked :                                  | Nil                                   |
| 12. Provision of Gate signal at KM :                        | Nil                                   |
| 13. Signalling arrangement :                                | Nil                                   |
| 14. Means of communication- :<br>Telephone/ Bell etc :      | Telephone connected with DWZ station. |
| 15.Width of level crossing gate :                           | 7.5 Mtrs.                             |
| 16.Type of road {NH/SH/Other} :                             | Others                                |
| 17.Name of road :   | Paraspal Road                         |
| 18.Metalled/Non-Metalled :                                  | Metalled                              |
| 19.Approach road:   | Black top.                            |
| 20.Width of the road :                                      | 3.75M                                 |
| 21.Angle of road crossing [In case of the skew gates]: --   |                                       |
| 22.Road gradients {if any} :                                | North-East side: Level                |
| :   | South-West side: Level                |
| 23.Road alignment {Straight/Curve} :                        | Straight                              |
| 24.Provision of height gauge :                              | Provided                              |
| 25. Type of Barriers:                                       | Lifting Barriers.                     |
| 26. Length of check rail :                                  | 7.5M                                  |
| 27. Road surface in L-Xing gate:                            | Asphalted/Black Top/Coaltarred.       |
| 28. Length of Rumble strip /speed breakers:                 | 3.75M                                 |
| 29.Road signs:  | Provided.                             |
| 30.Speed breaker indication board:                          | Provided.                             |
| 31.TVU :  | 24689 as on 08.03.2013                |
| 32.Censes next due on :                                     | 08.03.2016                            |
| 33.Demarcation for placement of detonators:                 | Provided.                             |
| 34.No. of Gate men working :                                | Three                                 |
| 35.Nearest Railway Medical Assistance:                      | Dantewara                             |
| 36.Nearest private Medical Assistance {If Any}:             | Dantewara                             |
| 37.List of equipment available Yes/No :                     | Yes.                                  |

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1.2 EQUIPMENTS:

ITEMS	QUANTITY/NUMBERS
1 Hand Signal Lamp Tri Color.	3Nos.
2 Hand Signal Flag Green.	1 No with mounted stick
3 Hand Signal Flag Red.	3Nos.
4 Banner Flag Red.	3Nos.
5 Posts for exhibiting red banner flag	2 Nos
6.Spare chains with padlocks	2 with stop marker
7.Detonators	10 in each case
8.Gate lamps	2Nos.
9.Tommy Bar	1No
10.Mortar Pan	1No
11.Spade/Fowarh	1No
12.Rammer	1No [in case of asphalted road this may not be provided.]
13.Pick Axe	1No [in case of asphalted rod this may not be provided.]
14. Tin case for flags	1No
15 Can for Oil	1No
16.Water Pot/Bucket	1No
17.Canister for Muster Roll	1No
18.Set of spare spectacles of gate man wearing glasses.	1No
19.Board demarcation protection of level crossing gate diagram in case of obstruction	1No
20.Bucket	1No
21.Whistle	1No
22.Wall Clock	1 No
23. A small size chain in case of failure of Boom/Lock	2 Nos

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.

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1.4 MODE OF OPERATION:

Detailed mode of operation for opening and closing the level crossing gate shall be provided in the respective Station Working Rules and Gate Working Instructions incorporating local operational requirements.

1.5 DUTIES OF GATEMEN:ALERTNESS:

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

2. POSITION DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATEMAN:

- [i] Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- [ii] Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrive and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- [iii] 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.
- [iv] Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- [v] Gateman shall also be prepared to repeat any signal which guard may give to Loco pilot on walkie-talkie or in any other way.
- [vi] If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlock for securing the gate against road traffic. Gate man shall report to the station master, gang mate or permanent way inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- [vii] In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position.
- [viii] At the gate whose signal has become defective the Gateman shall close and lock the lifting barrier 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.
- [ix] Gateman shall wear badge and prescribed uniform while on duty at level Crossing gate.
- [x] Gateman shall ensure that he is having competency certificate in his possession while on duty.
- [xi] Gateman shall work the gate as per gate working instructions and remain well conversant with this instruction.
- [xii] Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- [xiii] Gateman shall see that the channel for the flange of the wheel is kept clean.
- [xiv] Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.

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

[xvi] 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.

[xvii] Gateman shall prevent tress passing by persons or cattle to the maximum extent.

### **3 ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:**

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

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

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

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

[iv] In case of trains parting, gateman shall not show stop hand signal but shall show prescribed signal for trains parting.

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

[vi] In case of trains does not stop, gate man shall immediately inform the station master if connected on telephone, to take appropriate action under exchange of private number.

### **5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:**

[i] In case of an obstruction at the level crossing gates, Gateman shall maintain the gate signals, if any in the 'ON' position.

[ii] Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the station master if connected on telephone, regarding the defects/obstructions at the gate, under exchange of private number.

[iii] If there is no response from the station master after two or three attempts, he shall first protect the gate and then inform on phone.

The gateman shall protect the line as under:

#### **[A] ON SINGLE LINE SECTION:**

(i) Gateman shall plant a red banner flag by day and red light by night 5meters 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 5meters 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 600meters and place one detonator on the line. There after he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track 10meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

(iii) 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.

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

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

(ix) Thereafter, he shall warn the loco pilot and stop the approaching train by waving his red flag by day and red hand signal lamp by night repeatedly.

**[B] OTHER ACTION TO BE 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 the track, or if lifting barrier or any other part of the gate foul 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 the road vehicle, vehicle number, name of the vehicle driver, owner and relay these details to the nearest Station Master or Permanent way inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

**6. ENGINEERING ITEMS:**

Please Para 916, 918, 919 of IRPWM for visibility requirement at level crossings, provision of speed breakers on the approach roads of level crossing and senses of traffic at level crossings.

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**APPENDIX 'A'****ANNEXURE – V**

(General Instruction is common for all types of Manned Level Crossing Gate)

**1. MODE OF OPERATION:**

Detailed mode of operation for opening and closing the level crossing gate shall be provided in the respective Station Working Rules and Gate Working Instructions incorporating local operational requirements. When level crossing gate is required to be opened for passage of road traffic, the gateman will operate the winch after following the instructions given in para 2 item no. (ii) to (vi) below.

**2. EXCHANGE OF PRIVATE NUMBER:**

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

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

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

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

a) He has not exchanged any private number with the station as per (ii) above or

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

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

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

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

**3. FAILURE OF TELEPHONE COMMUNICATION:**

When Telephone communication fails or it does not get any response from the gate man despite 2 or 3 attempts, the following procedure should be adopted.

[i] Station Master at the dispatching end shall assure caution order to the Loco pilot of the departing train.

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

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iii] The Loco pilot shall be instructed to pass the gate cautiously, on being hand signal by the gate man. If hand signal is not seen, Loco pilot should be prepared to stop short of the gate and depute his assistant Loco pilot to see the condition of the gate. If the gate is closed, the Asst. Loco pilot will give the alright signal and if the gate is not closed he Asst. Loco pilot must close the gate and then give alright signal. In the absence of the Asst. Loco pilot, the Loco pilot may take the assistance of Asst. Guard/Guard.

[iv] In case of an approaching train, the SM shall advise the SM at the dispatching end, under exchange of private number that the Telephone at the gate has failed.

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

[vi] Station Master shall also advise the gate man through gang man/Petrol man or the Loco pilot of the first train that the Telephone has become defective.

[vii] He shall also advise S&T staff responsible for maintenance of the Telephone to rectify the same at the earliest.

[viii] Normal working will be resumed only after S&T staff rectify the Telephone and issue reconnection/fit memo for the same.

#### 4. **FAILURE OF LIFTING BARRIARS:**

[i] When the gate cannot be closed due to failure of lifting barriers, the gateman shall immediately inform the Station Master on duty under exchange of private number, and ensure that lifting barriers do not foul the track.

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

[iii] Gate man shall secure the gate against road traffic by means of safety chains and pad locks.

[iv] After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light to the Loco pilot of the approaching train.

[v] Station Master on duty shall Issue caution order to the Loco pilot of a departing train.

[vi] He shall also advise the Station Master at the dispatching end, under exchange of private number to similarly issue a caution order to the Loco pilot before dispatching a train in the block section.

[vii] Station Master shall advise maintenance staff responsible for maintaining the lifting barrier to rectify the same at the earliest.

[viii] Normal working will be resumed only after maintenance staff repair the lifting barrier and issue reconnection/If memo for the same.

#### 5. **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 put back gate signals to 'ON' position.

[ii] He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate for this purpose.

[iii] Immediately after this, the gateman shall advise the Station Master on duty regarding the defects/obstructions at the gate, under exchange of private number.

[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 approaching train and protect the gate as stipulated in General instructions for duties of gateman under item No.1.5 [5].

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

[vii] He shall note down the particulars of the road vehicle, name of the vehicle 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.

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

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

[x] Station Master shall then issue a caution order to Loco pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.

[xi] Gateman shall secure the gate against road traffic by means of safety chains and padlocks, and there after exhibit green hand signal, if the gate is not obstructed.

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

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

**6. OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:**

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and station master will adopt the procedure given under item no.(vii) 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.

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**WALTAIR DIVISION**

**APPENDIX 'B'**  
**SYSTEM OF SIGNALLING AND INTERLOCKING AND TELECOMMUNICATIONS**

**DANTEWARA STATION**

**1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:**

DANTEWARA is a 'B' Class station with Standard III Interlocking (with isolation). The points and signals are power operated from a composite miniature 'DOMINO TYPE' full-fledged panel installed in the Station Master's office. This station is equipped with manually operated Multi Aspect Colour Light Signalling.

1.1 Description of Panel :

The yard layout is depicted on the panel board in a miniature form and is fixed parallel to the track, so that when the Station Master on duty faces this panel, the Yard drawing on the panel corresponds to the actual field layout in either direction.

1.2 Point Buttons :

Push buttons Black for individual operation of points are provided for each point. Point group push buttons (black with red dot) for operation of points normal/reverse are also provided. Point button and point Group button normal/reverse shall conjunctively be pressed for operation of point to required position. To indicate the position of point, a small indicator lamp is provided on panel above the concerned points.

1.3 When a point is set correctly in normal, a white steady strip indication appears suggesting that the point is in normal position.

1.4 When a point is set correctly in Reverse, a white steady strip indication appears suggesting that the point is in Reverse position.

1.5 When the points of any route have been correctly set and relevant signals taken off a Red indication appears indicating the concerned points are locked either in normal or Reverse position as the case may be.

1.6 When the point starts to operate to normal/reverse position, the white strip indication will start flashing till the concerned point housed in required position. After the point housed in required position i.e. normal/reverse, the white flashing indication extinguished and steady point indication will glow for normal/reverse suggesting the point in correctly housed.

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

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**1.7 OPERATION OF POINTS :**

1.8 All running line points are operated by Electric point machine.

1.9. In the event of the point could not be set in the desired position, the said points are to be checked by the Station Master on duty according to G&SR 3.68.01(c) and if there is a defect other than obstruction the point has to be considered as defective and action shall be taken for clamping and pad locking these points in the desired position by the Station Master on duty himself for all trains according to SR 3.69.03(c).

**2. Description of Points :**

Sl.	Point Button No.	Colour	Description
1.	20	Black	Derailing switch on shunting neck to Line no-3 at KRDL end.
2.	21	Black	Cross over point between Main line and Line no-3 at KTV end.
3.	22	Black	Cross over point between Main line & Line no-3 at KRDL end.
4.	23	Black	Cross over point between Main line and Line no-1 at KTV end.
5.	24	Black	Single ended point between Line no - 3 and Line no-4 at KRDL end.
6.	25	Black	Cross over point between Line no - 3 and Line no-4 at KTV end.
7.	26	Black	Cross over point between Main line and Line no-1 at KRDL end.
8.	Point group button (Normal)	Black with Red dot.	Common button for normal operation of points.
9.	Point Group Button (Reverse)	Black and Red dot.	Common button for Reverse operation of points.

**2.1 DESCRIPTION OF POINT GROUP BUTTONS:**

There are two point group buttons (Black with Red Dot) at the top of panel one for Normal and one for Reverse operation of points. The Button is operated in conjunction with point button to operate the concerned point to the required setting.

**3. SIGNAL BUTTONS :**

Sl.	Button No.	Colour	Description
1.	C-1	Red with White dot	UP calling-on signal for Line No 1,2,3 & 4
2.	S-1	Red	UP Home Signal for Line No 1,2,3 & 4
3.	C-2	Red with white dot	DN. Calling-on signal for Line No 1,2,3 & 4
4.	S-2	Red	DN. Home signal for Line No. No 1,2,3 & 4
5.	SH-3	Yellow	Shunt signal for Line No 1, 2, 3 & 4.
6.	SH-4	Yellow	Shunt signal for Line No 1, 2, 3 & 4.
7.	SH-6	Yellow	Shunt signal on shunting neck for Line No 3 & 4.

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8.	S-9	Red	UP starter for Line No.1
9.	S-10	Red	DN starter for Line No.1
10.	S-11	Red	UP starter for Line No.3.
11	SH-11	Yellow	Shunt signal below signal No. S-11 on L3 for shunting neck.
12.	S-12	Red	DN. starter for Line No.3
13.	S-13	Red	UP starter for Line No.4
14	SH-13	Yellow	Shunt signal below signal No.S-13 on L4 for
15.	S-14	Red	DN starter for Line No.4
16	S-15	Red	UP starter for Line No.2
17	S-16	Red	DN. starter for Line No.2
18	S-17	Red	Up Advanced Starter
19	S-18	Red	DN Advanced starter

### 3.1 Signal Indication :

The aspect of signal as obtained at any time is shown on the panel on the Signal indication (along side of the track).

## 4. **ROUTE BUTTONS :**

Route buttons are provided separately on each running line on the panel for indication of route (viz L1/1 UN, L1/2 UN, L2 UN, L3/1 UN, L3/2 UN, L4/1 UN, L4/2 UN). Common route buttons are provided viz 17AT and 18AT for Up and Dn starter signals respectively. Common route button SN-UN also provided on shunting neck for SH-11 & SH-13. For taking of Up and Dn advanced starter route buttons 17 UN and 18 UN are also provided.

### 4.1 Descriptions of Route Buttons :

SI No	Button No.	Colour	Description
1.	L-1/1-UN	White with Black dot	Common route button for UP & DN Home signal setting overlap to sand hump, UP & DN calling on signal and UP & DN Shunt signal for Line No.1.
2.	L-1/2-UN	White	Common route button for UP & DN Home signal for LineNo.1 setting overlap on main line.
3.	L-2-UN	White	Common route button for UP & DN Home signal, UP & DN Calling on signal and UP & DN shunt signal for LineNo.2.
4.	L-3/1-UN	White with Black dot	Common route button for UP & DN Home Signal setting overlap to overrun line / sand hump, UP & DN Calling on signal and UP & DN shunt signal for Line No.3.

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5.	L-3/2-UN	White	Common route button for UP & DN. Home Signal for Line No.3 setting over lap on main line.
6.	L-4/1-UN	White with Black dot	Common route button for UP & DN Home Signal setting overlap to overrun line / sand hump, UP & DN Calling on signal and UP & DN shunt signal for Line No.4.
7.	L-4/2-UN	White	Common route button for UP & DN. Home Signal for Line No.4 setting over lap on main line.
8.	17A-UN	White	Common route button for UP Starter signals.
9	18A-UN	White	Common route button for DN Starter signals
10	SN-UN	White	Common route button on shunting neck for SH11 & SH13.
11	Group (Trans)	White with Black dot	Common Trans button for crank handle and siding control.
12	Group Restore	White with Black dot	Common Restore button for crank handle and siding control.
13	17- UN	White	Route button for UP advanced starter.
14	18- UN	White	Route button for DN advanced starter.

**5 CRANK HANDLE PUSH BUTTONS:**

Sl no	CRANK HANDLE	CONTROL POINTS
1	CH-1	21 A/B, 23/B
2	CH-2	22A/B, 26A/B
3	CH-3	25A/B
4	CH-4	20, 24

**6 MISCELLANEOUS PUSH BUTTONS:**

SL No.	Button No	Colour	Description
1	SM's EMERGENCY POINT OPERATION KEY	---	This key is to be inserted and operated in the event of Emergency point operation
2	SM's PANEL KEY	---	To lock the control panel to prevent unauthorized operation
3	GROUP TRANS PUSH BUTTON	WHITE WITH BLACK DOT	To be pressed to initiate slot of crank handle or LC gate operation along with concerned slot/Crank Handle/L.C.Gate button.
4	GROUP RELEASE PUSH BUTTON	WHITE WITH BLACK DOT	To be pressed to withdraw/Normalize the control of slot of crank handle or LC gate operation along with concerned slot/Crank Handle/L.C.Gate push button.
5	POINT GROUP NORMAL PUSH BUTTON	BLACK WITH RED DOT	To be pressed to initiate 'NORMAL' setting of point along with concerned point push button.

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6	POINT GROUP REVERSE PUSH BUTTON	BLACK WITH RED DOT	To be pressed to initiate 'REVERSE' setting of point along with concerned point push button
7	EMERGENCY ROUTE RELEASE PUSH BUTTON	WHITE WITH RED DOT	To be pressed for emergency Route Release
8	SIGNAL CANCELLATION PUSH BUTTON	RED	To be pressed for cancelling a signal which is already taken 'OFF' or to release a route after passage of a train.
9	SIGNAL LAMPFAILURE /POINT FAILURE ACKNOWLEDGEMENT	RED WITH WHITE DOT	To be pressed for acknowledging signal lamp/point failure
10	EMERGENCY POINT OPERATION	BLACK WITH RED DOT	To be pressed to operate the point when concerned point zone track circuit failed.
11	BUTTON HELD ACKNOWLEDGEMENT PUSH BUTTON	WHITE WITH RED DOT	To be pressed for silencing button held buzzer in case of any push button remains pressed after the button is released.
12	UP TRAIN ARRIVED ACK PUSH BUTTON	CHOCOLATE WITH WHITE DOT	To be pressed for normalizing the Block instrument for section JDB-NKX.
13	DN TRAIN ARRIVED ACK PUSH BUTTON	CHOCOLATE WITH WHITE DOT	To be pressed for normalizing the Block instrument for section KMEZ-JDB.

### **7. Power Failure Indication/Buzzer And Power Acknowledgement :**

Power supply to the signalling installation is through integrated power supply system. The IPS is normally fed through AT supply. The 1<sup>st</sup> standby power supply is Local (CSEB) and 2<sup>nd</sup> standby power supply is through DG set. The available local / DG supply is fed to the IPS through auto change over switch provided in IPS. In the event of failure of local supply, the SM on duty shall start the Diesel generator. The power supply of D.G.set is fed to the auto change over switch provided in IPS. Through auto change over switch the D.G. set power supply will be extended to the IPS.

The IPS system is connected with battery for safe working during transition of power.

#### **Remote monitoring**

ASM console for IPS is provided at SM's office, which will give the following instructions.

	Instruction	Condition	LED Indication	Remarks
A	Run Get Set	50% DOD	Red	Auto/ Visual alarm. Alarm shall be acknowledged by SM on duty
B	Emergency start Generator	60% DOD	Red	-do-
C	System shut down	70% DOD	Red	Signal feed cut off and all DC-DC converters to work. Audio alarm will continue till Generator is started.
D	Call S&T Staff	Equipment fault	Red	Failure of any module will give the alarm is ASM's panel. Alarm shall be acknowledged by SM on Duty for audio cut off.

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In the event of failure of Remote monitoring ASM console due to any reason when local power is failed the SM on duty shall start D.G. Set immediately. In case “call S&T staff” or “System shut down” is appears on the remote monitoring panel of IPS and / or malfunctioning of the Remote monitoring panel SM on duty shall inform the same to the concerned S&T staff immediately.

**7.1 SIGNAL (LED)/POINT FAILURE INDICATION (RED SIGNAL LAMP MUTTING BUTTON RED WITH WHITE DOT):**

Whenever LED signal becomes blank, as point failure, a flashing Red light indication appears along with an audible buzzer indicates Signal lamp as point failure. The Station Master on duty shall press the signal lamp/point failure Ack. Button thereby the buzzer stops but the Red indication lamp becomes steady which continues till either the LED signal is replaced/rectification of point failure.

**7.2 BUTTON HELD INDICATION WHITE/BUTTON BUZZER WHITE WITH RED DOT:**

Whenever any button remains held up in pressed condition 'Button Held' white. Indication starts flashing along with an audible buzzer. The Station Master on duty then acknowledge it by pressing the "Button Held" push button (white with red dot) the buzzer stops but the white indication continues to flash till the same is rectified.

**8. TRACK CIRCUITS / AXLE COUNTERS:**

Entire yard is provided with track circuits from Home signal to Advanced starter. The following track circuits are provided in this yard. 1AT, 1T, 18AT, 21AT, 21BT, 23BT, 25T, L<sub>1</sub>T<sub>1</sub>, L<sub>1</sub>T<sub>2</sub>, L<sub>1</sub>T<sub>3</sub>, L<sub>2</sub>T<sub>1</sub>, L<sub>2</sub>T<sub>2</sub>, L<sub>2</sub>T<sub>3</sub>, L<sub>3</sub>T<sub>1</sub>, L<sub>3</sub>T<sub>2</sub>, L<sub>3</sub>T<sub>3</sub>, L<sub>4</sub>T<sub>1</sub>, L<sub>4</sub>T<sub>2</sub>, L<sub>4</sub>T<sub>3</sub>, 22AT, 22BT, 24T, 26BT, 17AT, 2T, 2AT and 1GT.

Entire Block section between DWZ-GIZ and DWZ-KMLR is provided with Digital axle counter.

**For section DWZ-KMLR:**

A pair of Digital axle counter is provided between DWZ-KMLR one at just beyond UP advanced starter signal No.17 of DWZ and another at 180m beyond UP home of KMLR for last vehicle verification.

**For section DWZ-GIZ:**

A pair of Digital axle counter is provided between DWZ-GIZ one at just beyond DN Advance starter signal no.18 of DWZ and another at 180m beyond DN home of GIZ for last vehicle verification.

The position of the Block section whether clear or occupied is reflected on the axle counter reset box provided in the Station Master's office which shows 'GREEN' when the Block Section is clear and 'RED' when occupied. Whenever a train enters in to the Block Section, "Block Section Clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears. After complete arrival of the train the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of the train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR.14.13 is to be followed. The axle counters are interlocked with the respective block instruments for that section. If axle counter fails, Advanced Starter signal cannot be taken off for next train and the concerned instrument shall remain locked in last operated position.

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A resetting arrangement is provided in the SM office to reset the system to normal position in case of failure of axle counter. The resetting to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at either end of the block section.

**NOTE:**

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

**9. CRANK HANDLE FOR EMERGENCY OPERATION OF POINTS CRANK:**

Crank handle key of point machine is inter locked with the signalling and inter locking system at this station and the crank handle key of point machine which is normally locked up in the RKT instrument at the East and West location can be taken out when the signals for the connected route, are in the normal position and the route is not locked for any reason. Even when the route is locked the crank handle key of point machine can be extracted from the RKT through emergency operation by pressing crank handle key of point machine button along with Group Trans button. The release can be affected by pressing the push button for its release and when this key is taken out the signals leading over the particular point in either direction cannot be taken off.

**CRANK HANDLE CONTROL FOR OPERATION OF POINTS:**

Sl .No	Crank Handle	Control points
1	CH 1	21A/B, 23A/B.
2	CH 2	22 A/B, 26A/B.
3	CH 3	25A/B.
4	CH 4	20. 24.

- 9.1. On account of the doubtful operation of any track circuit by light vehicle/ vehicle including self propelled vehicles such as motor trolley or a diesel shunting engine or a tower wagon, in indication of the occupancy of the track it is necessary that the station master on duty satisfied himself that the said vehicle/ vehicles has/have cleared the point zone track circuits by observing the track indication of the tracks on either side of the cross over by positively checking of the ENTRANCE and EXIT track circuit are showing occupancy and clearance in accordance with the train movement.
- 9.2. **STATION MASTER'S KEY:**  
The panel is also fitted with Station Master's lock up key to prevent unauthorized operation of this panel but with the arrangement to put back the signal to the ON position in the case of emergency without altering the route when the panel is in locked position.
- 9.3. **EMERGENCY OPERATIONS:**  
The following are the instructions for Emergency operations.
- 9.4. **CANCELLATION BUTTON OR COUNTER:**  
For the purpose of the emergency operations there is an emergency Route cancellation and also there is a counter for counting emergency operations involving the concurrent operation of the emergency route cancellation button. The station master on duty must press the emergency route button by breaking the seal along

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with concerned signal button for which emergency route releases is required. A yellow indication will appear below the signal indicating that the timer has started operation and after lapse of 120 seconds. The desired route will be released provided all other conditions are favourable for the route release. The counter registers to next higher number every time emergency route cancellation is initiated. SM on duty shall ensure sealing of emergency route cancellation button by S&T maintenance staff after completion of the work.

- 9.5 The numbers on the counter register the number of operations performed for such emergency cancellation and the station master on duty should specify the cause for such usage giving the particulars of cause and the time of operation as related to a particular train etc. in the train signal register. The detailed operation instructions are as follows:

9.6 CANCELLATION OF UNINTENDED LOCKING OF POINTS:

Whenever there is unintended locking of any points (indicated by RED indication lamp near the concerned point) such a locking has to be released (after the concerned signal are in the normal position) by concurrently pressing the Emergency Group cancellation button (provided at the counter of the panel) and the concerned signal button provided the track circuits are clear and are in working condition. This operation is registered in the counter as already pointer out.

9.7 CANCELLATION OF LOCKING OF ROUTE AND POINTS AFTER THE SINGAL HAS BEEN PUT BACK TO 'ON':

OR

THE SINGAL HAS GONE BACK TO ON EITHER AFTER THE MOVEMENT OF THE TRAIN IS CANCELLED:

OR

THE TRAIN HAS COME TO A STOP OUT SIDE THE STOP SIGNAL:

In case the route is set and the signal is taken off and if it is warranted that the signal has to be put back to ON and cancel the route.

- a) Firstly the signal has to be put back to the ON position
- b) Emergency route cancellation operation must be initiated as detailed in para 8.1.

9.8 EMERGENCY OPERATIONS:

Cancellation of the locking of points not released after the passage of the train for any reason.

If the locking of the route does not get released for any reason on the other after passage of the train, it is necessary to take recourse to the following emergency operations.

- a) Firstly, it must be ensured that the signal and signal buttons are in normal position
- b) Operation as detailed in para 8.1 to be followed.

**10. EMERGENCY OPERATIONS OF POINT:**

a) IN CASE OF POINT ZONE TRACK CIRCUIT FAILURE:

The Station Master on duty can operate points from panel in case of point zone track circuits fails. The Station Master on duty after physical verification inserts the SM's emergency point key and turn. Keeping Emergency point key in that position the Station Master on duty must press the individual point button along with emergency point operation button (Black with Red dot) by breaking the seal. He shall then release the emergency point operation button only and press the point group Normal or Reverse button as per requirement keeping the individual point button is pressed condition. Points will be set to Normal or Reverse position as per operation. During the initiation on RED indication will appear above the emergency

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operation button. This operation will be registered in and emergency point operation counter placed above the emergency point operation button and counter registers to next higher number each time emergency point operation is initiated. SM on duty shall ensure sealing of emergency point operation button by S&T maintenance staff after completion of emergency point operation.

**b) IN CASE OF AXLE COUNTER FAILURE:**

In case of failure of Axle counter of LVV, resetting can be done after ensuring last vehicle intact from the Guard of the train. Procedure for resetting is given in Para No 26 of Appendix B.

**11. INTERLOCKING OF SIGNALS:**

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

**12. LOCKING OF RELAY ROOM:**

- 12.1 Relay room at this station is provided with double locks (Two independent locks) as necessary vide OM 1.14, key of one lock shall be kept with the Signal Maintainer of the section and the key of the other lock with Station Master on duty. The relay room cannot be opened unless both keys are used.
- 12.2 The Station Master shall ensure that the Relay Room key is given to maintenance staff under clear signature as and when required for their normal maintenance and special works and that the key should be returned by the staff immediately after completion of their work and the documentation should be made in the Relay Room Key register maintained at the Station according to SR 3.51..05 and OM 1.14.

**13. MAINTANANCE OF S&T INSTALLATION AND ADHERENCE TO MAINTENANCE SCHEDULES:**

- 13.1 The regular maintenance of S&T installations and adherence to the schedules of maintenance is also the mandatory schedules of testing of points, track circuits, signal lever machines, level crossing gates, the associated interlocking apparatus i.e., cables and finally the interlocking functional tests is a must for the safe and satisfactory working of those installations at DANTEWARA Station.
- 13.2 The tests, checks and replacements etc. including overhauling shall confirm to the schedule of maintenance as indicated in the signal engineering manual as also in the current and extent instruction / circulars on the subject.
- 13.3

**14. PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF A SIGNAL AND INTERLOCKING INSTALLATIONS:**

Whenever there is a failure of points, track circuits, signals, Axle counters or any other interlocking gears at the station, the failure report should be communicated by the Station Master on duty through a memo to the Sectional Maintainer and the Signal Engineer of the Section along with others as per G& SR 3.51.04 and 3.68.04 and document all such transactions.

**14.1 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:**

However, before declaring a Signal as defective the setting of point on the route to

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which it applies shall be inspected by the Station Master on duty irrespective of the position of the points on the Panel in term of SR 3.68.04(c).

**14.2 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:**

It is only after receipt of this information the sectional maintainer (Electrical or Mechanical) shall attend to the failure after giving a disconnection memo. After rectification of the fault the sectional maintainer shall give a reconnection memo detailing rectification and it is only after the Station Master of duty has personally checked this defective gear and is satisfied that it is in good and proper working order, he shall resume the normal working of the said defective gear in terms of SR 3.64.04 (c) and (d).

**15. PROCEDURE FOR CARRYING OUT PLANNED MAINTANANCE WORK:**

However any normal maintenance or special works for heavy renewals etc. are involved, these works should be pre-planned by the signal & Telecommunication field staff and the Inspector of the section should give to the Station Master in writing "Advance Intimation" about this planned work in terms of GR 15.08.01.

**16. EMERGENCIES:**

Notwithstanding anything contained in above said Para Nos. 14 and 14.1 and 14.2, when a gear is found to be defective and unsafe for passage of trains, the Signal and Telecom. Staff shall at once suspend the working of such gear and the associated installation and issue a "Suspension Memo" explaining the seriousness of the defect or damage to the interlocking installation to the Station Master and obtain SM's acknowledgement. After this, the usual practice of issuing disconnection memo and reconnection memo can follow and the Station Master must promptly act on such messages and take adequate precautions treating the S&T installations as defective and pass trains over the affected interlocking gears according to extent instructions as contain in GR 3.77 and SR thereto.

**17. LIGHTING OF SIGNAL LAMPS AND THEIR MAINTENANCE:**

The Station Master on duty at every shift must also ensure from the Panel Board that all the signals lights are burning properly and brightly. This fact must also be recorded in the diary under a separate entry and confirm to the section controller on duty as per instruction contained in Divisional Safety Circular No. 82/82, Dated 2.5.82 and GR 3.49(3) and SR thereto.

**18. CORRECTING TIME IN STATION CLOCK:**

The Station Master shall set the time on his clock according to the time signal given by the Section Controller on duty at 16.00 Hours. Every day according to SR 4.01.01 and 4.01.02.

**19. NORMAL POWER SUPPLY AND STAND BY POWER SUPPLY:**

Normal: AT supply- 230v, 50Hz.  
Standby: 1<sup>st</sup> Local supply (CSEB)  
2<sup>nd</sup> DG set

**19.1 NORMAL POWER SUPPLY-MAINTANACNE OF POWER SUPPLY, POWER FAILURE AND REPORTING SUCH FAILURES:**

Normal power supply to the Signalling and interlocking installations at this station is drawn from AT. The 1<sup>st</sup> standby power supply is taken from Chattishgarh state Electrical Board (CSEB) at 230v, 50Hz and 2<sup>nd</sup> standby is through DG set. The Station Master must however, maintain the record of the power failure of the local supply and he must promptly report the failure to the Section controller and the concerned Electrical and S&T maintenance staff.

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**20. WORKING OF POINTS – POSITION OF POINTS:**

The normal position of all points shown in the Station Working Rule Diagram No. SI/WRD 23077 and also in the mimic indication panel provided in the Station Masters office.

- 20.1 All crossover points and independent points on the running lines are worked by Electric Point Machines. The point machines have in-built locking and detection arrangements. These points are remotely controlled from the panel situated in the Station Master's office.
- 20.2 The operation and indication of the points and their route locking over them is already explained in earlier paras of Appendix-B.

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

- 21.1 Whenever a Signal or a Point become defective, any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at Station.
- 21.2 In case of failure of Signal or a Point and in case the Point cannot be operated from the Panel, the emergency Crank Handle which is interlocked with the system has to be extracted and the following procedure has to be observed.
- 21.3 The crank handle key can be extracted from concerned point crank handle RKT provided at location by pressing common trains button along with conceded crank handle button. After setting the point by crank handle the key will be inserted again into the concerned crank handle RKT and will be turned. Key indication will appear on panel and the SM has to press the common receive buttons along with concerned crank handle button for further normal operations.
- 21.4 The case of failure of Motor Operated Points should be promptly reported to the concerned SE/ESM for immediate rectification.
- 21.4.1 Whenever an emergency Crank handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty; will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the concerned Points will be treated as defective till the Emergency Crank Handle is returned back to the Station Master on duty.
- 21.4.2 Emergency release of crank handle after the lapse of 120 sec., in case of emergency release of crank handle during any of the route remains locked.
- 21.5 Both parting with the emergency crank handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.
- 21.5.1 The Emergency Crank Handle Register is to be maintained in the following Performa by the Station Master on duty wherein the particulars of usage of the Emergency Crank Handle must be recorded.
1. Date
  2. Point Number, which failed or required to be tested.

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

**22. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:**

**22.1 INTERLOCKING WITH HOME SIGNALS:**

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

- 22.2 The UP and DN Advanced Starter Signals are Electrically interlocked with the respective Single line Token less handle type Block Instrument so that these signals cannot be taken OFF until the Handle of the concerned Block Instrument is in TRAIN GOING TO position.

**22.3 SUSPENSION OF LAST STOP SIGNALS:**

When the Single line Token less handle type Block Instrument is suspended with its handle in TRAIN GOING TO position for whatever reason the concerned Last Stop Signals controlled by the Single line Token less handle type Block Instrument must be treated as suspended and trains shall be Piloted Out.

**23. BURNING OF SIGNAL LIGHTS:**

The Station Master of duty shall not grant LINE CLEAR unless he has ensured that the lamps of fixed signals that apply to the train are burning brightly. If the Signal Lights cannot be kept burning the Station Master on duty shall before giving LINE CLEAR initiate action in accordance with the procedure prescribed in GR 3.68 to 3.71 and relevant SR's vide GR 3.49(4).

**24. TELECOMMUNICATIONS:**

- 1) Telephone attached to Block instruments connected to adjacent block stations on either end.
- 2) Magneto phone is provided to adjacent block stations on either side.
- 3) The station is connected to KRDL-KRPU control circuit.
- 4) The station is connected to KRDL-KRPU Traction power control circuit.
- 5) BSNL Telephone.

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- 6) 25 watts VHF set.
- 7) Magneto phone to CH location boxes at either end.
- 8) Telephone connection is provided between SM's office and 'A' class LC gate at km 403/5-6, LC no. KK-103.
- 9) Telephone connection is provided between SM's office and 'C' class LC gate at km 404/11-12, LC no. KK-104.
- 10) Telephone connection is provided between SM's office and T.W. siding Location box.
- 11) Telephone connection is provided between SM's office and Goods siding Location box.

**25. FAILURE OF COMMUNICATIONS – FAILURE OF BLOCK INSTRUMENTS:**

- 1) In the event of suspension / failure of Block instrument line clear transaction shall be made on block telephone attached to Block instrument exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).
- 2) In the event of suspension / failure of Block instrument and Block telephone attached to Block instrument line clear transaction shall be made on station to station Magneto phone exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).
- 3) In the event of suspension / failure of s Block instrument, telephone attached to Block instrument and station to station magneto phone, line clear transaction shall be made on control telephone exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).(C).
- 4) In the event of failure of all communications trains shall be worked in terms of SR 6.02.04.

**26. Normalization of the Block proving axle counter and Block working by Resetting feature:**

Digital axle counters are provided between a DWZ-KMLR and DWZ-GIZ single line section for last vehicle verification. The occupation and clearance of the axle counter section is indicated in the reset box provided in SM's office by 'Red' and 'Green' lights respectively.

If Block proving Axle counter fails, the Last stop signal at the rear station cannot be taken 'OFF' and Block instrument at receiving station cannot be turned to "Line Closed" position after arrival of a train and in such a case, resetting of last vehicle checking device is to be resorted to. After complete operation of resetting, LVCD axle counter reset box will display 'Section clear' indication only after the passage of next train which is to be piloted out. No train should be allowed on signal to leave a station in any particular direction unless track clear indication is available for the relevant axle counter track circuited portion and Last stop signal is not taken 'OFF'.

A resetting arrangement is provided in the SM office to reset the system to normal position in case of failure of axle counter. The resetting to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at either end of the block section. A reset box with digital counter is provided for resetting the axle counter of the LVCD. Its key shall be with SM. Each operation of resetting is registered in the counter. SM shall record the reason for resetting, date, time in the axle counter reset register.

**27. Resetting of LVV Digital axle counter:**

- i) After complete arrival of the train, if the LVCD axle counter continues to show 'RED' on the Reset Box, the on duty SS/SM at both ends of the section shall resort to reset the axle counter. For this purpose SS/SM at receiving end shall

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first verify that Block section is clear of trains. If the failure has occurred after arrival of train, SS/SM shall obtain signature from the guard of stopping train on the train intact register (vide GR &SR 4.17, 4.17.01) or by exchanging signal with the guard of through running train, so that he can ensure that the train has arrived completely before resorting the LVV axle counter. SS/SM of receiving end shall inform the failure of axle counter to on duty SS/SM of dispatching end for UP/DN section.

- ii) SS/SM at receiving end then sends an operating person to verify that the last vehicle is clear of Block section. After verifying the clearance of last vehicle of concerned block section, the operating person exchanges private number and press the button in the LVV box.
- iii) On exchanging private number the SS/SM at both ends will insert the reset key for corresponding section and shall press the nominated reset button. By this operation LVV axle counter will reset and associated counter will change to next higher number at both ends.
- iv) SS/SM at both ends shall record the counter number so changed due to reset of axle counter in the reset register and also in the Train signal register mentioning the purpose of reset. After the reset operation is completed preparatory reset indication will appear on reset box at both ends which suggests that the reset operation is successfully completed and the first train has to be piloted out. On arrival of the piloted train the axle counter zone of the section shows clear and normal working shall be resumed. Even after arrival of piloted train, LVV axle counter zone does not show clear indication, S&T staff to be informed for getting rectified the failure of axle counter.
- v) It is mandatory that every reset operation of LVV axle counter first train after reset process shall have to be piloted out.

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**EAST COAST RAILWAY**  
**WALTAIR DIVISION**

**APPENDIX 'C'**

**DANTEWARA STATION**  
**ANTI COLLISION DEVICE (RAKSHA KAVACH)**

**NIL**

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**EAST COAST RAILWAY**  
**WALTAIR DIVISION**

**APPENDIX 'D'**

**DUTIES OF OPERATING STAFF IN EACH SHIFT AT DANTEWARA STATION:**

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

**1. DY.STATION SUPERINTEDENT:**

He is responsible for train passing duties. During his shift he is responsible for the general and satisfactory working of the Station and for the efficient discharge of duties by staff working under him. He shall keep all rule books, registers, files and documents, apparatus neat and tidy and instruments including signalling and interlocking gears and fittings are kept clean and oiled by S&T officials. His special attention is drawn to Chapter-II of G & SR and GR 5.01 to 5.08 with relevant SRs and OM Chapter-XXII. He shall promptly attend to accidents and report them. He shall supervise the work of safe working staff and conduct night inspections and report lapses of staff working under him. He is also responsible to submit all periodical and monthly returns/statements and the correspondence in time and as per schedule.

**2. STATION MASTER:**

He is responsible for train passing duties during his shift. He shall promptly bring to the notice of Dy.SS, all irregularities and accidents in course of his shift duties. During the absence of Dy.SS, the duties of the Dy.SS will lie on him. He shall follow SR 3.68.01(c) (d), SR 14.07.01. His Special attention is drawn to Chapter-II of G&SR and GR 5.01 to 5.08 with relevant SRs and OM chapter-XII. As an assistant to Dy.SS. He is also responsible to submit all periodical and monthly returns as per Schedule and for the correspondence with Office in time.

**3. TRAFFIC POINTS MAN:**

He shall work under the orders of Dy.SS/SM on duty. He shall couple and un-couple vehicles under the supervision of Dy.SS/SM/Guard. He shall operate ground lever/levers and clamp and padlock the necessary points for shunting operations. He shall watch and guard the packages and other Rly. / property lying in the Station premises. He shall be thorough with the correct usage of displaying hand signals. He shall report to SM on duty any irregularities coming to his notice. He shall do loading and unloading of parcels, smalls and guard boxes. He shall do piloting IN and OUT. He shall deliver any official message to the proper person/office. He shall carry out any other duties entrusted to him by the Station Master on duty.

**4. SAFAIWALA-CUM-LAMPMAN:**

He shall attend to the sanitation of Railway premises including SM's Office, platforms, staff quarters, latrines and cleaning of drainages etc. He shall carry out any work instructed to him by Dy.SS/SM on duty. His services may be utilized in casualties of Token Porter if he is qualified in all aspects.

NOTE: All staff should be in uniform while on duty and follow the rosters issued by Sr. DPO/WAT from time to time.

(B.M.VENKATESWARLU)  
DSTE/Project/VSKP

(K.GANESH KUMAR)  
DOM/Plg/WAT

**EAST COAST RAILWAY**  
**WALTAIR DIVISION**

**APPENDIX 'E'**  
**DANTEWARA STATION**

**ESSENTIAL EQUIPMENT**

List of essential equipment is given below vide OM 20.04(ii) which shall be maintained in good working order.

<b>Sl. No.</b>	<b>Equipment</b>	<b>Station</b>
1.	Detonators	20
2	Battery operated LED based flashing Hand Signal lamps	3(1 spare)
3	Hand Signal flags	4 (2 Spare) Sets
4	Clamps with Padlocks	6
5	Safety chains with Padlocks	6
6	Fire and Sand Buckets	5
7	Minimax fire extinguishers (Soda acid type)	1
8	First Aid-Box	1
9	Blanket woollen	1
10	Stretcher	1
11	Skids	2

The above Essential equipment provided at the station which shall be maintained in good and proper working order vide OM 20.04(11).

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**EAST COAST RAILWAY**  
**WALTAIR DIVISION**

**APPENDIX 'F'**  
**DANTEWARA STATION**

**WORKING OF D.K. STATIONS, HALTS, IBH, IBS AND OUTLAYING SIDINGS:**

**N I L**

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**EAST COAST RAILWAY**  
**WALTAIR DIVISION**

**APPENDIX 'G'**  
**DANTEWARA STATION**

**RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS:**

**DETAILS OF 25 KV AC TRACTION**

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