



EAST COAST RAILWAY

WALT AIR DIVISION



STATION WORKING RULES

TILARU STATION

TILARU (TIU) STATION
INDEX OF CORRECTION SLIPS

TILARU (TIU) STATION

INDEX OF CORRECTION SLIPS

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EAST COAST RAILWAY
WALTAIR DIVISION
STATION WORKING RULES OF TILARU STATION
(BROAD GAUGE)

NO.WTF/5/TIU/20

Date of Issue:-

Date brought in force:-

NOTE:-

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

1. STATION WORKING RULE DIAGRAM:

- (i) STATION WORKING RULE DIAGRAM no. SI/WRD/23005 Alt 'H'
- (ii) SIGNAL INTERLOCKING PLAN No. SI/23005 Alt 'H'.
- (iii) DATE UP TO WHICH CORRECTED:

2. DESCRIPTION OF STATION:**2.1 GENERAL LOCATION:**

a) Name of the station	:	TILARU
b) Class of station	:	'B' class
c) Section	:	Howrah-Visakhapatnam
d) Double line/Single line	:	Double- line
e) Electrified/Non-Electrified	:	Electrified
f) Gauge BG/MG/NG	:	BG
g) Railway	:	East Coast Railway
h) Route	:	'B'
i) Situated at	:	Km 729.218
j) Reckoned from	:	Howrah
k) Number of cabins	:	Centrally operated VDU.
l) Standard of Interlocking	:	STD III (R)

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

Sl No	Adjacent Block-section	Distance	Direction
A	KOTABOMMALI	13.715km	HWH end
	URLAM	9.635km	VSKP end
B	Provision of IBS:	Section TIU-KBM:DN IB: Km: 722/20-22 UP IB: Km: 721/23-25	
C	Automatic signal	Nil	Nil
D	DK station/Outlaying sidings	Nil	Nil
E	Passenger halt (HARISHANDRAPURAM)	5.2 km (km:723.8)	KBM end

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

Between Stations	The Point from which the 'Block Section' Commences	The Point at which the 'Block Section' end
TIU-KBM UP Direction	a) From UP Adv.Str.Signal No 13 of KBM. b) From UP IB Home signal No 15 of KBM.	a) 400 mtrs beyond UP IBS No.15 of KBM. b)Outer most facing point No 21A of TIU.
TIU-KBM DN Direction	a) From DN Adv.Str signal No12 of TIU. b) From DN IB Home signal No14 of TIU.	a) 400 Mtrs beyond DN IBS No.14 of TIU. b) Up to BSLB board of KBM.
TIU-ULM UP Direction	From UP Advanced starter signal No 13 of TIU .	Outermost facing point no. 13A of ULM.
TIU-ULM DN Direction	DN Advanced starter signal no.8 of ULM.	Up to BSLB board of TIU.

2.4 GRADIENTS WITHIN STATION LIMITS:

i) **TOWARDS ULM END:**

a) **UP LINE:**

From	To	Distance	Gradient
CSB	CH: 206.960 M	206.960m	1 in 550 Falling.
CH: 206.960 M	CH: 542.245 M	335.285m	1 in 400 Falling.
CH: 542.245 M	Into section.	---	1 in 150 Falling.

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b) DOWN LINE:

From	To	Distance	Gradient
CSB	CH: 206.960 M	206.960 M	1 in 550 Falling.
CH: 206.960 M	CH 502.600 M	295.640 M	1 in 400 Falling.
CH 502.600 M	CH 2461.800 M	959.200 M	1 in 150 Falling.
CH 2461.800 M	Into section.	-----	1 in 400 Falling

c) TOWARDS KBM END (UP & DN LINES):

From	To	Distance	Gradient
CSB	CH: 82.290 M	82.290 M	1 in 550 Raising
CH: 82.290 M	CH: 371.240 M	288.950 M	1 in 560 Falling
CH:371.240 M	CH: 764.760 M	393.520 M	1 in 400 Falling
CH:764.760 M	Into section.	-----	1 in 150 Falling

d) IBS ZONE:**(i) Down Line towards KOTABOMMALI:**

KM From	KM To	Distance	Gradient
CH: 723.680 M	CH:722.280	1400 M	1 in 2000 Falling
CH: 722.280 M	CH:721.600	680 M	1 in 350 Falling
CH: 721.600 M	CH:720.020	1580 M	Level.
CH: 720.020 M	Into section	----	1 in 400 raising

(ii) UP Line towards KOTABOMMALI:

KM From	KM To	Distance	Gradient
CH: 722.340 M	CH:721.090 M	1250 M	1 in 350 Falling.
CH: 721.090 M	Into section	---	Level

2.5. LAYOUT:**A) RUNNING LINES, DIRECTION OF MOVEMENT AND HOLDING CAPACITY:**

Sl No.	Name of the line	Electrified/ Non Electrified	Platforms with length
1	Line No.-1 (Common loop)	Electrified	High Level (350.5M)
2	Line No.-2 (DN Line)	Electrified	High level (560.52 M)
3	Line No.3 (UP Line)	Electrified	
4	Line No.4(UP Loop)	Electrified	High Level (350.5 M.)

(B) SIDING:

Name of the Siding	Electrified/ Non Electrified	Platforms	Isolation of Running Line
Hot Axle siding	Electrified	---	Isolated from Line No.4 by HPL.

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

Sl No.	Name of the lines	Holding capacity in CSL	Direction of Movements
1	Line No.-1 (Common loop)	703 M (STR to SS)	(a)Trains coming from ULM and proceed towards KBM are DN trains. (b) Trains coming from KBM and proceed towards ULM are UP trains.
2	Line No.-2 (DN Line)	754 M (STR to SB)	
3	Line No.3 (UP Line)	731M (STR to SB)	
4	Line No.4(UP Loop)	722 M (STR to SB)	

2.5.2. NON RUNNING LINES:

Name	Holding capacity	Electrified/Non Electrified
Hot Axle siding	47.85 M	Electrified

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT: -

- 1.DN Gate inner Distance signal has been placed on RH side as per PCOM/BBS special instruction.
2. Adequate distance for reception of UP Trains on Line 3 & 4 should be ensured up to Advance Starter Signal No:13.

2.6 LEVEL CROSSING:-

Detailed working of L.C gates are mentioned in Appendix 'A'.

Sl.No	LC Gate No. KM	Class of Gate	Communicati on with station	Type of Interlocking	Section
1.	ML-417, 734/1-3	'B' Class	TIU	Interlocked	TIU-ULM
2.	ML-416, 733/5-7	'C' Class	TIU	Manned	TIU-ULM
3.	ML-414, 730/11-13	'A' Class	TIU	Interlocked	TIU-ULM
4.	ML-412, 728/33-35	'C' Class	TIU	Interlocked	TIU-KBM
5.	ML-411, 727/3-5	'C' Class	TIU	Manned	TIU-KBM
6.	ML-410, 726/5-7	'C' Class	TIU	Manned	TIU-KBM

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3. SYSTEM AND MEANS OF WORKING:

- i) System of working :-Trains are worked under 'Absolute Block system' in accordance with provision of GR 7.01 (1)(a) & (b) 8.01 (2) (a) (b) (c) (ii), 14.01 to 14.07,14.08 (a),14.09 to 14.11, 14.13 and block working manual Chapter-V.
- ii) Block instruments:-'SGE type' Double line block instruments are provided for block section TIU-ULM and TIU-KBM block sections in the station masters room vide BWM 5.01 (a) and GR 14.01 (a). The lock and block instruments are operated by station master on duty as per the provisions of GR chapter-XIV of G&SR and block working manual Chapter-V.
- iii) Co-operative/Non Co-operative: Non co-operative
- iv) Taking "OFF" the Last stop signal is the authority for the loco pilot to take his train into the concerned block section vides GR 14.08(a).
- v) Provision of Block Telephone attached to Block instruments connecting the adjacent Block stations concerned.
- vi) Custody of keys of block instrument: Block instrument is provided with double locking. One key will be with SM and other key will be with S&T maintainer. SM is responsible for operation of the Block instruments.
- vii) Telephone provided on DN IBS signal post at km: 722/20-22 Between TIU-KBM.

4. SYSTEM OF SIGNALLING AND INTERLOCKING:

1	Standard of Interlocking	Standard – III (R)
2	Type of Signaling	MACLS
3	Mode of Operating the signals	Visual Display Unit (VDU)
4	Provision of Calling –On signals	Calling-on signals are provided below Home signals (i.e. in both UP & Down directions) as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b).
5	Provision of Shunt signals	Back shunt signals SH 3A/B and SH 4A/B/C/D are provided at HWH and VSKP end respectively for shunting purpose.
6	Emergency cross over	Emergency cross over No 21 towards HWH end and No 22 towards VSKP end are provided at either end of the yard.
7	Track circuits	Track circuits are provided in the yard as 1AT, 1T ₁ , 1T ₂ , 21AT, 21BT, 23T, 25AT, 25BT, 12T, 12AT, L ₁ T ₁ , L ₁ T ₂ , L ₁ T ₃ , L ₂ T ₁ , L ₂ T ₂ , L ₂ T ₃ , L ₃ T ₁ , L ₃ T ₂ , L ₃ T ₃ , L ₄ T ₁ , L ₄ T ₂ , L ₄ T ₃ , 22AT, 22 BT, 24AT, 24 BT, 26AT, 26BT, 13 AT, 13T, 2AT, 2T ₁ and 2T ₂ .
8	Axle counters	<u>Section KBM-TIU:</u> Analog axle counter on UP line is provided from LSS of KBM to 400mts beyond UP IB no. 15 of KBM as 13AXT. Digital Axle counter is provided from UP IB no. 15 of KBM to Facing point no. 21A of TIU as UAXT. Analog axle counter on DN line from LSS no.12 of TIU to 400mtrs beyond DN IB no.14 of TIU as 12AXT. Digital axle counter

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		<p>is provided from DN IB signal no. 14 of TIU to DN home signal of KBM as DAXT.</p> <p><u>Section TIU-ULM:</u></p> <p>Digital Axle counter on UP line is provided from advance starter no. 13 of TIU to UP Home signal of ULM as UAXT. Digital axle counter on DN line is provided from Advance starter of ULM to BSLB of TIU as DAXT.</p> <p>Normally the VDU is blank except point and Block section indications for the above axle counters are available on VDU at SM's office. When a signal is cleared the route indication 'Yellow' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.</p>															
9	Crank handle	<p>When any point fails to operate normally by the Route Setting operation through VDU it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual para-2.19(d).</p> <table border="1"> <thead> <tr> <th><u>CRANK HANDLE</u></th><th></th><th><u>CONTROL POINTS</u></th></tr> </thead> <tbody> <tr> <td>CH-1</td><td></td><td>21 A/B</td></tr> <tr> <td>CH-2</td><td></td><td>22 A/B</td></tr> <tr> <td>CH-3</td><td></td><td>23 A/B, 24 A/B</td></tr> <tr> <td>CH-4</td><td></td><td>25 A/B, 26 A/B</td></tr> </tbody> </table> <p>These crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle can be released by SM by tracking the mouse pointer on to the concerned crank handle button icon. This will enable two options to be displayed on the menu i.e. Crank handle Transmit control and Crank Handle Release control. To</p>	<u>CRANK HANDLE</u>		<u>CONTROL POINTS</u>	CH-1		21 A/B	CH-2		22 A/B	CH-3		23 A/B, 24 A/B	CH-4		25 A/B, 26 A/B
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		<p>release the crank handle key, SM should click the Crank handle 'TRANSMIT' control option. After transmission the KEY IN indication will start flashing, now the key can be extracted from the EKT. After extracting the key from the EKT, the KEY IN indication will disappear. When the keys are taken out no signal can be taken "OFF" over the particular route on the points nominated by that Crank Handle. This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points.</p> <p>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. (The Detailed procedure for use of Crank Handle is given in Appendix-'B').</p> <p>The cases of failure of motor point, it should be promptly reported to the concerned signal maintainer/signal inspector for immediate rectification.</p>
10	Emergency Point operation:	<p>Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit/Axle Counter.</p> <p>Before doing the emergency operation, the Emergency Point Operation Key is to be made "KEY IN" by clicking the KEY IN menu. The user name and password is be logged in. The user name is ECOR and the password of this station is TIU. On clicking the concerned point icon, a pop-up menu is displayed carrying four options: 1) Normal 2) Reverse 3) Emergency Normal 4) Emergency Reverse. For emergency operation of concerned point, drag the pointer to either emergency normal or emergency reverse whichever is desired. A normal or reverse flashing indication will appear and the indication.</p> <p>Will be steady after the point is set to Normal or reverse, whichever is desired. After the completion of Emergency point operation, the key is to be KEY OUT by clicking KEY OUT menu. The user name and password is to be given for KEY OUT also. This action will be recorded in a counter. All such operations will be registered in the emergency point operation counter Register. Each operation of emergency point operation shall be</p>

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		recorded in the station diary and in the register meant for this purpose.
11	Showing of Veedor Counters	<p>One counter icon has been provided on the VDU. When selected a drop down menu will appear indicating the following counters.</p> <ol style="list-style-type: none"> 1. Emergency Route Release. 2. Emergency Point Operation. 3. Emergency Crank handle release. 4. Emergency Gate release. 5. I.B. Axle counters resetting for section KBM-TIU UP line. 6. LVCD axle counters resetting for section KBM-TIU. 7. LVCD axle counters resetting for section TIU-ULM. <p>When the pointing device is placed any one of the menu the latest counter number will pup-up on VDU</p>
12	Emergency route release indication:	<p>The Electronic interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route.</p> <p>When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), click on the concerned signal. After clicking by the left button on the mouse a pop-up menu will appear as shown above-Click on the cancellation menu (Main/Calling on) of the concerned signal, the signal will immediately go to ON aspect. After doing so click on the route release menu, the route locked indication will start flashing for 120 second. After completion of 120 seconds, the White light along with the White strip of light will disappear suggesting the route has been released. This action will be recorded in a counter. The counter will increment the number for each and every such action. In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released /cancelled. In such case the concerned S&T staff should be advised immediately to release the route and seal the emergency route release button.</p> <p>Each operation of emergency cancellation of route should be recorded in the emergency route release counter register by registering the next higher number. All such operations and the new number should be recorded in</p>

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		the station diary counter register and in the train signal register
13	Emergency Crank Handle Release operation	<p>When a crank handle is locked due to route set earlier is not released or otherwise to Transmit or Release control of the Crank Handle, SS/SM on duty shall cancel the relevant signal first and then click on the crank handle control button icon provided like the following on the VDU.</p> <p>On clicking, the appearing pop-up menu gives details of the possible commands on the Crank Handle</p> <p>For Transmitting the Crank Handle KEY to the field personnel SS/DY. SS on duty has to click transmit control menu. After transmission the 'KEY LOCKED' (Red) indication will start to flash for 120 seconds & 'KEY IN' remains steady. After a lapse of 120 seconds the 'KEY LOCKED' indication will vanish & 'KEY IN' indication will start to FLASH. After extracting the key from the RKT, the 'KEY IN' indication will disappear. When the Manual point operation is over, after putting the emergency crank handle key in the RKT, flashing 'KEY IN' indication will appear on the VDU, now the SS/SM on duty shall Release the control for the Steady indication by clicking 'RELEASE CONTROL' menu.</p> <p>The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM on duty who shall record the details of the Emergency Crank Handle Operation along with the latest counter no. in a register.</p>
14	Emergency Gate Release operation:	<p>L.C. Gate control can be released and the gate can be opened by this operation when LC gate control remains in locked condition due to setting of any of the signal routes over it or otherwise. For releasing the gate by the Emergency operation, the SS/SM on duty has to cancel the signal by signal cancellation control of the relevant signal. Then he has to click the Emergency Gate release control in the Gate pop-up menu. Now the 'LOCKED' (Red) indication will flash for 120 seconds & after the time has elapsed the 'LOCKED' (Red) indication will vanish. Now the SS/SM on duty shall transmit the 'GATE CONTROL' in this condition and 'KEY IN' indication starts flashing. Now the KEY can be extracted from the RKT at Gate Lodge and gate can be opened. This action will be</p>

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		<p>recorded in a counter. The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM manually in a register.</p> <p>The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM on duty who shall record the details of the Emergency Gate Operation along with the latest counter no. in a register.</p>
15	IBS	<p>Section TIU-KBM:DN IB: Km: 722/20-22</p> <p>UP IB: Km: 721/23-25 is provided.</p>
16	Visual Display Unit (Operator Console)	<p>VDU is provided for operation of Signals, Points, LC Gates, Crank Handles, Sidings & other controls. The VDU is provided with SM's key user name and password which shall always remain with the personal memory of the on duty station master.</p>
17	TAKING OFF CALLING ON SIGNAL	<p>Miniature colour light Calling-on signal is provided below the Home signals in terms of GR.3.13(6)(b). A Calling-on signal shows no light in the 'ON' position and White light when taken "OFF". A calling-on signal, will be taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' due to failure or any other reason or for admission of train on blocked line. To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal, occupying the track circuit in rear of the signal. When a train Occupies the track circuit a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be set by tracking the pointer in VDU on to the signal below which the calling on signal is provided. Various options in terms of the total routes over which the signal will lead to will appear on the menu. Then the SM must drag the pointer and click over the particular Calling on route amongst the various options displayed in the menu by the left button of the mouse as a result of which the Calling-on signal will blink for 120 seconds. After a lapse of 120 seconds, the Calling-on signal clears i.e., a White light glows at the concerned calling-on signal on the VDU. Every such operation has to be recorded by the on duty SM along with the reasons to do so. The calling-on signal route can be released after complete arrival of the train or by emergency cancellation.</p> <p><u>NOTE:</u> SM on duty to ensure that no through signals are given while receiving a train on Calling-on.</p>

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

As per JPO/02/2012,Dt.29.8.2012 issued by COM and CSTE/ECOR, the following procedure shall be adopted for opening of Relay Room:

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

Name of the S&T staff authorized for opening of Relay room is to be entered in the first page of Relay room key register and jointly certified by SSE/Signal in charge and DTI incharge of the section. In emergency, if any S&T staff other than authorized wants to open Relay room, he must inform DSTE through Signal Fault Control. It shall convey the permission of DSTE to SS/SM by giving Signal Fault Control number. {As per Operating Manual 13.16 (b)}.

Whenever relay room is to be opened either for schedule maintenance or during failures or for other maintenance activities/construction works. The concerned Maintainer/Signal supervisor will verify his identity from the list of authorized S&T staff recorded in the first page of Relay Room key register or as advised by Signal Fault Control in emergency. SM shall give the key of pertaining lock to S&T staff, after the entry is made in Relay Room Key register and also with Red ink in TSR. Relay room key shall not be handed over by SM on duty to any Group-D staff of S&T department. On completion of work, the concerned Signal Maintainer/Signal supervisor shall properly closed Relay Room door and lock it with both the locks and then return the key of operating lock to the SM on duty making the entry in the Relay room key register.

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

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

Entry to be made in S&T failure register by SM on duty and failure memo has to be issued to S&T staff. S&T staff shall not take the Relay room key for attending failures and Open the Relay room unless the failure is recorded in Signal failure register. If disconnection is required, Disconnection memo has to be given by S&T staff to SM on

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duty. Failure memo should be acknowledged and entry in relay room key registers to be made by S&T staff before obtaining station masters key. Relay room key for schedule maintenance shall be taken once in a calendar month during monthly inspection by Sectional Supervisor. Relay room can be opened by following above procedure for special maintenance activities like cable insulation testing, Block/disconnecting memos, selection table testing maintenance work inside relay room by Electrical and Engineering staff, during failures, E.I resetting and inspection by Divisional and Headquarter officials, works required by Constructing & Open line staff for preparatory works and during commissioning. In each such case, the construction staff shall follow the detailed guidelines issued regarding working on signaling gears under the charge of open line.

In case of emergencies such as fire, flood, earthquake etc. Open line Section Engineer (Signal)/Signal Maintainer & SS/SM shall jointly decide the need for opening the Relay room. Section Engineer (signal)/HQs at Divisional Control office and Section controller shall be advised respectively. In case of communication failure during such emergencies, Open line Signal Maintainer/Supervisors and SS/SM on duty shall jointly decide the need for opening the Relay room and communicate later to respective controls. In case key is lost/misplaced, it shall be reported to S&T control as well as section control for either lock. In normal course the spare key respective custodians shall be used. In emergency situation, lock may be broken under advice to Section Control as well as S&T control. New lock shall be procured and provided.

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

4.3 POWER SUPPLY:

- (i) Auto change over CLS Panel is provided in the Station Master's Office with the three power supplies viz., UP AT, DN AT and Local, for auto switching of to the required supply position. A luminous indicator above the circuit breaker for each supply indicates the availability of the supply.
- (ii) Normally the switch will be kept towards UP AT or DN AT position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other AT.
Eg: If power block is to be given on the UP line, DN AT must be available and vice-versa.
- (iii) In case of failure of one of the AT supply without any power block, the on duty SM. has to check whether the circuit breaker has tripped. (Three circuit breakers are

provided in the Auto change over CLS Panel, one for each supply and their normal position is down and when tripped it goes up.) In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch.

If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any other mean and a message shall be given to the AEE and CTFO/PSI for prompt rectification.

- (iv) For IPS system that provides Un-interrupted power supply to signaling system the selection output of the auto change over CLS panel has been provided.
- (v) There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

REMOTE MONITORING ASM BOX:

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

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

5. TELECOMMUNICATIONS:

- a) The Station is connected to VSKP - PSA Main line Control Circuit.
- b) Telephone attached to SGE type Lock and Block Instruments for sections TIU-KBM and TIU-ULM.
- c) Railway Auto telephone is provided at the station.
- d) BSNL/CUG Telephone is provided at this station.
- e) Hot line telephone communication is provided between TIU-KBM and TIU - ULM stations.
- f) Telephone communication is provided between Station Master to Up CH locations and to DN CH Locations.
- g) Telephone communication attached to L.C. Gate ML-417, 734/1-3, ML-416, 733/5-7, ML-414, 730/11-13, ML-412, 728/33-35, ML-411, 727/3-5, ML-410, 726/5-7.
- h) Telephone is provided on DN IBH Signal No.14 between TIU-KBM.
- i) The station is connected to VSKP - PSA traction power control circuit.
- j) VHF set is provided at the station.

(6) SYSTEM OF TRAIN WORKING:**6.1 DUTIES OF TRAIN WORKING STAFF:**

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

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

SS/SM	1 in each shift
Traffic points man	1 in each shift
Traffic Gateman	1 in each shift

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

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

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

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

6.1.3. ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:

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

Fresh assurance shall be obtained in the Assurance Register when:

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

6.2 CONDITIONS FOR GRANTING LINE CLEAR:

- a) The train is worked under Absolute Block system with double line working and MACL signaling vide GR 8.03.
- b) The train is worked under Absolute Block system with double line working and MACL signaling vide GR 8.03.

A) For section TIU-ULM

B) For section TIU-KBM

Before granting a line clear for a train the SM on duty shall ensure that:

- (i) The whole of the last preceding train has arrived.
- (ii) All necessary signals have been put back to 'ON' behind the said train.
- (iii) The line is clear up to BSLB on DN Line for DN Trains and up to the outermost facing point No. 21 on UP Line for UP trains.
- (iv) All signal lights pertaining to the train are burning properly.

NOTE:

If the light of the reception signal is found not burning, line clear shall not be granted for train till such time it is ensured that the concerned Loco pilot is notified of the fact in writing by the Station Master of the station to which such line clear is to be granted.

c) Adequate distance for reception of trains at TIU.

Line No.	For UP Trains		For DN Trains	
	FROM	TO	FROM	TO
Line No.1 (COMMON LOOP)	UP STR. SIG.NO.9	END OF THE SAND HUMP-	DN STR.SIG No.8	END OF OVERRUN LINE (OR) DN ADV STR SIG No.12
Line No.2 (DN MAIN)	-	-	DN MAIN STR.SIG. No.10	DN ADV.STR SIG. No.12
Line No.3 (UP MAIN)	UP STR.SIG.No.11	UP ADV.STR.SIG.No. 13	-	-
Line No.4	UP STR.SIG.No.7	END OF OVER RUN LINE (OR) UP ADV.STR.SIG. No.13		---

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

6.2.1.1 SETTING OF POINTS AGAINST BLOCK LINE

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

Safety Point Alarm Unit (SPAU):

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

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1. On complete arrival of a train at the station, the SM has to set the points immediately against the occupied line.
2. In case the SM forgets to alter the points, after a time lag of 02 minutes, an audible buzzer will be heard from this instrument along with the 'RED' indication of the line on which the train has arrived.
3. The SM shall then press 'ACK' button to mute the buzzer, and immediately set the required points against the line on which the train has arrived.
4. On setting the points against the occupied line, the RED indication will disappear.
5. In case SM fails to set the required points against the occupied line a fault message will be triggered SMS will be sent to concerned station mobile and all concerned staff. Action will be taken against.

If all the lines of a station happen to be blocked when line clear has been granted to a train the safety point alarm will not work and the point should be set for the line occupied by a stable load or a goods train by SM on duty in that order so that, in case of mishap, the chance of casualties minimized. In case of all the lines are occupied by passenger trains points should be set for a loop line to negotiate which the speed of incoming train would be reduced which in turn would minimize the consequences/causalities vide SR 3.51.06(b). These precautions shall be taken in addition to the observance of other precautions as contained in SR 5.04.01 and SR 5.23.01.

6.2.1.2 RECEPTION OF A TRAIN ON BLOCKED 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. [Refer GR 5.09 & SRs there to].

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

NIL

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE:

NIL

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

NIL

6.2.1.6 ANY OTHER SPECIAL CONDITIONS:

SPECIAL INSTRUCTIONS

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(i) Adequate distance for reception of UP trains on line No: 3 & 4 should be ensured up to Adv Starter signal No: 13.

(ii) Due to existence of gradient steeper than 1 in 400 beyond 50M of outer most points of the station yard, necessary stipulations vide Revised SOD 2004 chapter-2 item no : 2 note (d) & note (e)

For above purpose, a Station Yard means —

(1) Station Yard will be taken to extend —

(i) On double line where multiple aspect signalling is provided to a distance of 50 meters beyond Stock Rail Joint of outermost points at either end of The station or where there are no loops, from Block Section Limit Board to last stop signal of each line.

(2) There must be no change of grades within 30 meters of any points or crossings.

6.3 CONDITIONS FOR TAKING “OFF” APPROACH SIGNALS:-

- i). Conditions for taking off approach signals are governed by GR 3.40(1) (a), 3.40(2) (a), 3.40(3) (b) for double line section.
- ii). Calling-on signal may be taken off for the admission of train in the event of failure of Home signal in terms of GR 3.69 (3)(c) or for the admission of a train on obstructed line in terms of GR 5.09 and SRs thereto.

6.3.1 RESPONSIBILITY OF STATION MASTER FOR RESTORATION OF SIGNALS TO “ON”:

SM should ensure that signal is put back to ON after passage of the train as per GR 3.36 [2] [b].

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

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

1.	While Receiving of a DN train on line No.1 set to overrun line (common loop)	Dispatch a DN train from line no. 2.
2.	While Receiving of an UP train on line No.1 up to sand hump (common loop).	Dispatch of another UP train from 'Line No.3 or Line No.4'
3.	While receiving of an UP train on line no. 4 set to sand hump (UP loop)	Receiving of a DN train on line no. 1 or 2 and dispatch a Dn train from line no. 1 or 2.

6.5 COMPLETE ARRIVAL OF TRAINS:

The Entire block section between TIU-ULM and TIU-KBM on both Up and Down Lines are monitored by axle counter system and the position of the block section whether 'Occupied' or 'Clear' is indicated on VDU at SM's office. As soon as train enters in to

that block section the RED indication appears on VDU. After whole train clears the block section GREEN indication appears on the VDU. This confirms the complete arrival of train and the SM on duty shall give 'Train out of Block Section' report on seeing the section clear indication GREEN on the VDU.

In case of failure of Axle counter the SM on duty shall obtain Complete Arrival Certificate from the guard of the train in the Complete Arrival Register (T/1410) maintained at the station for stopping train. For through passing train the SM on duty shall satisfy himself the complete arrival of the train by verification of the Last Vehicle Indicator vide SR 4.16.05 that the train arrived complete.

In case a train passes incomplete, action shall be taken as per SR.4.17.02, he "Train out of Block Section" report shall be withheld to the station in rear until Complete

Arrival Certificate is received from the station in advance supported by a private number. Train passing on adjacent line shall be stopped and Guard and Loco Pilot shall be issued with caution Order to proceed cautiously and stop short of any obstruction as per SR. 4.17.03. On occasions when motor trolley follows a train the points shall not be operated until the following motor trolley is admitted on the same line. In the event of motor trolley is delayed in the section the SM on duty shall take action in terms of SR.15.25.03 (b)(vi).

6.6 DESPATCH OF TRAINS:

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

non-isolated shunting and the Station Master will ensure that the Level crossing Gate is closed against road traffic and then shall take "OFF" the concerned route starter and advanced starter signal. The 'OFF' aspect of the route starter and advanced starter is the authority to proceed into the block section. [Refer GR 3.38, 3.42, SR

3.36.04(b), 3.42.04 and BWM 2.07.5(a)]

The Station Master on duty shall watch the safe passage of the train with its last vehicle indicator. After the train passes the advanced starter complete, he shall send the train entering block section signal to the station in advance. If a train worked without Guard or Brake Van the instruction laid down in Subsidiary Rule shall be followed. The interlocked level crossing gate shall remain closed against road traffic for dispatch of trains. [Refer SR.4.23.02 & 4.25.02].

IBS : Section TIU-KBM:DN IB: Km: 722/20-22 & UP IB: Km: 721/23-25 is provided.

Detailed procedure for dispatch of trains up to the IBS and thereafter to the Next station is shown in Appendix-F.

6.7 TRAINS RUNNING THROUGH:

- (A) The provision of GR 3.4, 4.17, 4.42 with relevant SRs and SR 3.42.02 (a)(iv) and other relevant provision of BWM shall be observed.
- (B) The sequence for taking 'OFF' signals for run through trains is governed by SR 3.42.02 (a).
- (C) In every case in which trains are permitted to run through on a non isolated line, all shunting shall be stopped and no vehicle unattached to an engine or not properly secured in accordance with rule 5.23 may be kept standing on a connected line which is not isolated from through line vide SR 4.11 (2).
- (D) The SS/SM on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General and Subsidiary Rule. [Ref. GR 3.42,4.17,4.42 and SR 4.42.02 (b) (i),(ii).

6.8 WORKING IN CASE OF FAILURE:**PROCEDURE TO BE FOLLOWED FOR WORKING OF TRAINS DURING FAILURE /SUSPENSION OF INTERLOCKING /SIGNALS/ POINTS:****A. TRACK CIRCUITS:**

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

B. AXLE COUNTER:

If the axle counter fails between the block sections, resetting procedure will be adopted as per Para 5 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. 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)

During this period of time the authority will be T/369(3b) with identification number and Private Number issued from the station in advance written both in figure and words.

D RECEPTION OF TRAIN ON OBSTRUCTED LINE:

Whenever trains are to be admitted on an obstructed line it is necessary that the trains are 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. [Refer GR 5.09 & SRs there to].

E. RECEPTION OF A TRAIN ON NON-SIGNALLED LINE:-
NIL

F. DEFECTIVE SIGNALS:

Whenever signals become defective, the procedure laid down in GR & SR shall be followed. A signal in the OFF position is the final indication that the points are correctly set for the route for which it applies and if it is found impossible to take OFF a signal, the setting of points on the route to which it applies shall be inspected by the Station Master on duty before the signal is declared as defective irrespective of what is indicated by the position of the route, [Refer GR 3.68 to 3.71, 3.80 and SR 3.68.01 (c)].

In case of disconnection of signal and interlocking for repairs and maintenance, procedure laid down in GR and relevant SRs shall be followed. In the event of signal showing no lights, Station Master on duty shall before giving line clear initiate action in accordance with the procedure prescribed in GR and the relevant SRs. [Refer GR 3.51, 3.69, 3.49 (4), 3.68 to 3.77]

G. INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

However, before declaring a point is defective, the setting of the point on the route to which it applies shall be inspected by the Station Master irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.70 & SR 3.77.01(b)]

Initiate action in accordance with the procedure prescribed in GR and relevant Subsidiary Rules there to. [Refer GR 3.49(4) and 3.68, 3.77]

H. DEFECTIVE INTERLOCKING:

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

I. DEFECTIVE/DAMAGED POINTS:

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

6.9 PROVISIONS FOR WORKING OF TROLRIES/ MOTOR TROLRIES/MATERIAL LORRIES ETC:

Motor trolleys shall be worked as per GR 15.25 and SRs thereto and BWM 5.11(2), 5.12, 5.13 and 5.14(2)(b). Material Lorries shall be worked in accordance with GR.15.27 and

SRs thereto and BWM 5.11(2), 5.13 and 5.13(2)(b). Trolleys, Motor Trolleys, Lorries which are not insulated shall not be allowed to run except on Line clear.

- i) Motor Trolleys/Tower Wagon/material Lorries are not likely to actuate the Axle Counter correctly.
- ii) In all other respects the Working of a light motor trolley shall conform to the rules laid down for ordinary trolleys while running without block protection and to those laid down for motor trolleys while running under block protection or following another light motor trolley.

(7) **BLOCKING OF LINES:**

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. 'Line Block' is to be activated on VDU by Dy. SS/SM on duty following procedures as laid down in para no. 6.2.1.1 A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23 and SR 5.23.01].

A. **SECURING OF VEHICLES:-**

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

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

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

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

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

minimize the consequences/causalities. While doing so points may be set for a loop occupied by a train, if any, whose engine is facing the direction of approach of the incoming train rather than for a loop occupied by a train whose passenger coach will in case of collision receive the impact.

8. SHUNTING:

8.1 GENERAL PRECAUTIONS.

- (i) The rules laid down in GR 3.46, 3.52 to 3.56, 5.13 to 5.23, 8.05(2) (3), 8.06 and 8.14, 8.15 (c) with relevant SRs and OM 7.01, 7.07 and 7.08 shall be observed. All shunt movement shall be supervised by Guard/SS/SM, point man on duty vide SR 5.13.03 as the case may be.
- (ii) In the event of any non-signaled movement has taken place, SS/SM on duty shall ensure physical verification of the clearance of the cross over points.

a) NON-SIGNALLED MOVEMENTS:

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

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:

Shunting in the face of an approach train is strictly prohibited and is governed by 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:

Not applicable.

8.5 SHUNTING ON DOUBLE LINE:

- (i) When the line clear has been given no shunting shall be permitted in the block section in rear Vide GR 8.06 (1).
- (ii) Shunting or obstruction for any other purpose shall not be permitted in the block section in rear unless it is clear and is blocked back Vide GR 8.06(2) and BWM 5.15[I][b].

- (iii) Shunting or obstruction for any other purpose shall not be permitted in the block section in advance unless it is clear and is blocked forward Vide GR 8.06(3) and BWN 5,15[2][b].

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

NIL

9.0 THE RULES TO BE OBSERVED IN THE EVENT OF ABNORMAL CONDITIONS: -

(i) PARTIAL FAILURE: -

In the event of suspension of Lock and Block Instrument and during partial failure of other available means of communication, the procedures detailed below shall be followed for working of trains in different situations. (Refer BWM 5.16, 5.23 and SR 6.02.06).

ii) THE AUTHORITY TO PROCEED IN OCCUPIED BLOCK SECTION IN CASE OF OBSTRUCTION OF LINE OR ACCIDENT:

Rules and regulations for working trains on an obstructed line in case of obstruction or accident on the authority of block ticket (T/A-602) when communications are available shall be followed in accordance with the provision. [Refer SR 6.02.05]

iii) TRAINS DELAYED IN BLOCK SECTIONS

If a train carrying passenger does not arrive within 10 minutes OR if a goods train does not arrive within 20 minutes after allowing for its normal running time from the station in rear, the SM at the station in advance shall immediately advise the station in rear and the control this fact. There after SMs at either end of the Block section shall immediately stop all trains proceeding in to the block section on adjacent line in either direction and warn the Loco pilots and Guards of such trains by issue of suitable Caution Orders. [Refer GR 6.04 & SRs thereto]

- iv) FAILURE OF AXLE COUNTER BLOCK/BPAC – Procedure to be followed as detailed in Para No. 4.1(I).

- v) Failure/Passing of intermediate block stop signal at 'ON'.

- vi) FAILURE OF AXLE COUNTER BLOCK/BPAC – Procedure to be followed as detailed in Para No. 6.5

- vii) Failure of MTRC

b) PROCEDURE FOR EMERGENCY OPERATION OF POINTS BY CRANK HANDLE:-

- (i) The detailed Procedure for emergency operation of points by Crank Handle of motor operated points is given in Para No.4.0 (9, 10, and 13) (Main body).

- (ii) Procedure for emergency operation of points with point zone axle counter/Track circuits failure and emergency route release.[GR 3.39 and GR 3.77] is given in Para .4.0(10)

(c) **CERTIFICATION OF CLEARANCE OF TRACK BEFORE CALLING –ON SIGNAL OPERATION IN INITIATED-**

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

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

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

9.1 TOTAL FAILURE OF COMMUNICATION:

- (a) In the event of total failure of communication trains shall be worked in accordance with the provision of SR 6.02.03.
- (b) During partial interruption of communication the rules laid down in SR 6.02.06 shall be followed.

9.2 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION

During temporary single line working on one clear line when one line is obstructed either between TIU- KBM and TIU- ULM, trains shall be worked as per the procedure laid down in SR 6.02.01 & 6.2.02

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

Rules and regulations for working trains on an obstructed line in case of obstruction or accident on the authority of block ticket (T/A-602) when communications are available shall be followed in accordance with the provisions of GR 6.09 and SRs thereto.

10. VISIBILITY TEST OBJECT:

The signal lights of common loop starter signal No.8 & 9 during day and night are the visibility test object vide GR 3.61.2(b)(iii)

11. ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-‘E’)

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

Placing of detonators is dispensed with since the station is equipped with the provision of double distant signaling vide SR.3.61.01 (d) note (ii).

13. APPENDICES:

APPENDIX-A	: WORKING OF LEVEL CROSSING GATES
APPENDIX-B	: SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION.
APPENDIX-C	: ANTI COLLISION DEVICE (RAKSHA KAVACH)
APPENDIX-D	: DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT
APPENDIX-E	: LIST OF ESSENTIAL EQUIPMENTS PROVIDED AT THE STATION
APPENDIX-F	: RULES OF WORKING OF DK STATION, 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 RULES AND SUBSIDIARY RULES. BLOCK WORKING MANUAL AND OPERATING MANUAL. THESE RULES CANCEL ALL PREVIOUS STATION WORKING RULES OF **TILARU** STATION.

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Sr.DOM(G)/WAT

APPENDIX – A

APPENDIX – B

APPENDIX – C

APPENDIX – D

APPENDIX – E

APPENDIX – F

APPENDIX 'A'**APPENDIX 'A' TO STATION WORKING RULES OF TILARU STATION**

THE LEVEL CROSSING GATES ML-410 (KM 726/5-7), ML-411 (KM 727/3-5) & ML-416 (KM 733/5-7) ARE BEING NON INTERLOCKED ENGINEERING LC GATES AND NORMAL POSITION OF THESE GATES ARE CLOSED TO ROAD TRAFFIC. HENCE FROM PARA NO.1.2 TO 7 AND Annexure-V WHICH ARE APPLICABLE TO THESE GATES ARE SIMILAR AND WORKING INSTRUCTIONS OF THESE GATES ARE ONE IN THE SAME.

LEVEL CROSSING GATE AT KM: 726/5-7, LC NO. ML – 410.**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: | ML - 410 |
| 2. | Engineering or Traffic Gate: | Engg. Gate-“C” Class |
| 3. | Under control of Station Master/Permanent Way inspector: | SSE/P / CHE |
| 4. | Location at KM: | 726/5-7 |
| 5. | At Station | Mid section |
| 6. | In between station | KBM-TIU. |
| 7. | BG/MG/NG: | BG |
| 8. | Signal line/Double line/Multiple line | Double Line |
| 9. | Normal Position: | closed. |
| 10. | Inter Locked/Non-Interlocked: | Non-Interlocked. |
| 11. | Means of interlocking: | --- |
| 12. | Provision of Gate signal at Kms. | |
| | (i) Up Line | Nil |
| | (ii) Dn Line | Nil |
| 13. | Signaling arrangement: | ---- |
| 14. | Means of communication-Telephone/Bell etc: | Telephone connected with
TIU Station. |
| 15. | Width of level crossing gate: | 7.5 Mtrs. |
| 16. | Type of road {NH/SH/Other}: | Others. |
| 17. | Name of road: | Panthulupeta-Patapadu Road |
| 18. | Metaled/Non-Metaled: | Metalled. |
| 19. | Approach road: | Non Metalled |
| 20. | Width of the road: | 5.5 Mtrs. |
| 21. | Angle of road crossing {In case of the skew gates}: | 90 ⁰ |
| 22. | Road gradients {If any}: | 1) North/East side: Level
2) South/West side: Level |
| 23. | Road alignment {Straight/Curve}: | 1) North/East side: Straight.
2) South/West side: Straight. |

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24.	Provision of height gauge:	Provided.
25.	Type of Barriers:	Lifting barrier.
26.	Length of check rail:	9.5 Mtrs.
27.	Road surface in L-Xing gate:	Level CC Block.
28.	Length of Rumble strip /speed breakers:	5.5 Mtrs.
29.	Road signs:	Provided.
30.	Speed breaker indication board:	Provided.
31.	TVU:	12202 NOV-18
32.	Census next due on:	NOV-2021
33.	Demarcation for placement of detonators:	Provided.
34.	No. of Gate men working :	Two
35.	Nearest Railway Medical Assistance:	CHE
36.	Nearest Private Medical Assistance {If Any}:	Tilaru
37.	List of equipment available Yes/No..... ..	Yes.

LEVEL CROSSING GATE AT KM NO. 727/3-5 (727.135) L.C.NO.ML-411

1 GENERAL

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

1.	Number of Level Crossing Gate	411
2.	Engineering or Traffic Gate	Engineering
3.	Under control of Station Master / Permanent Way Inspector	SSE/P/CHE
4.	Location at KM.	727/3-5 (727.135)
5.	At Station	---
6.	In between stations	KBM-TIU
7.	BG / MG / NG	BG
8.	Single line / Double line / Multiple line	Double lines
9.	Normal Position	Close to road traffic
10.	Interlocked / Non-Interlocked	Non-Interlocked
11.	Means of Interlocking	Non-Interlocked
12.	Provision of Gate signal at Kms.	
	(i) Up Line	Nil
	(ii) Dn Line	Nil
13.	Signalling arrangements	-
14.	Means of Communication – Telephone / Bell etc.	TIU Station
15.	Width of level crossing gate	7.50m
16.	Type of road (NH / SH / Others)	Other
17.	Name of Road	Village
18.	Metalled / non-metalled	Non metalled
19.	Approach road	Non metalled
20.	Width of the road	5.50m
21.	Angle of road crossing (in case of the skew gates)	90 ⁰

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22	Road gradient (if any)	
	(i) North / East side	Level
	(ii) South / West side	Level
23.	Road alignment (straight/curve)	Straight
	(i) North / East side	Curve
	(ii) South / West side	
24.	Provision of height gauges	Yes
25.	Type of Barriers	Lifting Barrier
26.	Length of Check rails	7.50 m
27.	Road surface in between L-Xing gates	Level C.C.Block
28.	Length of Rumble strip / speed breakers	4.0m
29.	Road signs	Provided
30.	Speed breaker indication board	Provided
31.	TVU	3626 on Nov-2018.
32.	Census next due on	Nov'-2021
33.	Demarcation for placement of Detonators	Provided
34.	No. of Gatemen working	Two
35.	Nearest Railway Medical Assistance	Rly. Health Unit CHE
36.	Nearest Private Medical Assistance available (if any)	CPP.
37.	List of equipment available Yes / No	Yes.

LEVEL CROSSING GATES AT KM 733/5-7 LC NO. ML – 416

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE :

1.	Number of Level Crossing Gate:	ML-416
2.	Engineering or Traffic Gate:	Engg.gate-"C" Class
3.	Under control of Station Master/Permanent Way inspector:	SSE/P.WAY/ CHE
4.	Location at KM:	733/5-7
5.	At Station	Mid Section
6.	In between station	TIU-ULM.
7	BG/MG/NG:	BG
8.	Signal line/Double line/Multiple line	Double Line
9.	Normal Position:	close to Road Traffic.
10.	Inter Locked/Non-Interlocked:	Non-Interlocked.
11.	Means of interlocking:	
12.	Provision of Gate signal at KMs:	1) UP line: Nil 2) DN line: Nil
13.	Signaling arrangement:	----
14.	Means of communication-Telephone/Bell etc:	Telephone connected with TIU Station.
15.	Width of level crossing gate:	7.5 Mtrs.

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16.	Type of road {NH/SH/Other}:	Others.
17.	Name of road:	Basivada-Narasannapeta Road
18.	Metaled/Non-Metaled:	Metalled.
19.	Approach road:	Non Metalled
20.	Width of the road:	5.5 Mtrs.
21.	Angle of road crossing - {In case of the skew gates}:	90°
22.	Road gradients {If any}:	1.North/East side: Level 2 South/West side:Level
23.	Road alignment {Straight/Curve}:	1) North/East side: Straight. 2) South/West side: Straight.
24.	Provision of height gauge:	Provided.
25.	Type of Barriers:	Lifting barrier.
26.	Length of check rail:	9.5 Mtrs.
27.	Road surface in L-Xing gate:	C.C. Block
28.	Length of Rumble strip /speed breakers:	5.5 Mtrs.
29.	Road signs:	Provided.
30.	Speed breaker indication board:	Provided.
31.	TVU:	16930 OCT-2018
32.	Census next due on:	OCT-2021
33.	Demarcation for placement of detonators:	Provided.
34.	No. of Gate men working :	Two
35.	Nearest Railway Medical Assistance:	CHE
36.	Nearest Private Medical Assistance {If Any}:	Tilaru
37.	List of equipment available Yes/No.....	Yes.

1.2 EQUIPMENT:

Sl.no	Items	<u>Quantity / Numbers</u>
1.	LED based flashing Tri colour Hand Signal Lamp	3 (Three)
2.	Hand Signal Flag Green	1 No with mounted stick
3.	Hand Signal Flag Red	3 (Three) mounted on sticks
4.	Banner Flag Red	3 (Three)
5.	Posts for exhibiting red banner flag	2 (Two)
6.	Spare chains with padlocks	2 with stop mark.
7.	Detonators	10 in Tin case.
8.	Gate lamps	2 Nos.
9.	Tommy Bar	1 No.
10.	Mortar Pan	1 No.
11.	Spade / Fowrah	1 No.

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12.	Rammer	1 No. (In case of asphalted road this may not be provided)
13.	Pick Axe	1 No (In case of asphalted road this may not be provided)
14.	Tin case for flags	1 No.
15.	Can for oil	1 No.
16.	Water port / Bucket	1 No.
17.	Canister for Muster Roll	1 No.
18.	Set of spare spectacles of gateman wearing glasses	1 No.
19.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1 No.
20.	Basket	1 No.
21.	Whistle	1 No.
22.	Wall Clock	1 No.
23.	A small size chain for use in case of failure of gate 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.

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. Whenever Gate is to be closed, the procedure discussed in para 2(a) of Annexure IV (i) to (v) shall be followed.

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2. DUTIES OF GATEMEN:**[A] 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.

[B] 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 nighttime, 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 red banner flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.

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

[iii] 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.

[iv] 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.

[v] 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.

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

[vii] 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.

[viii] 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.

- [ix] In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position.
- [x] 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.
- [xi] Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- [xii] Gateman shall ensure that he is having competency certificate in his possession while on duty.
- [xiii] Gateman shall work the gate as per gate working instructions and remain well conversant with this instruction.
- [xiv] Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- [xv] Gateman shall see that the channel for the flange of the wheel is kept clean.
- [xvi] Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- [xvii] Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- [xix] 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.
- [xx] Gateman shall prevent trespassing 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 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 endeavor to attract the attention of the Loco pilot/guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting then and bringing them together in repeated UP and DN motion as high and as low as possible.

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

5. ACTION IN CASE OF EMERGENCY AT THE LEVEL CROSSING:

- (i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals, if any in the 'ON' position.
- (ii) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, if connected by telephone, regarding the defects/obstructions at the gate, under exchange of private number.
- [iii] If there is no response from the station master man after two or three attempts, he shall first protect the gate and then inform on phone.

The gateman shall protect the line as under:

[A] ON DOUBLE LINE SECTION:

- [i] If the both lines are obstructed The Gateman shall plant a red banner flag by day and the red light by night 5 meters away on posts duly provided for this purpose. He shall first protect the line on which a train is expected to arrive first.
- [ii] Then he will similarly plant the other red banner flag by day and the red light by night on the other line 5 meters away from the site of obstruction.
- [iii] Gateman shall then proceed to protect the gate along with detonators and red flags by day and red hand signal lamp by night.
- [iv] Gateman shall proceed exhibiting red flags by day and red light by night on the line on which a train is expected to arrive first, to a point 600 Mtrs on BG and place one detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs on BG from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line, he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- [v] Thereafter he shall proceed on the other line, showing red hand signal, similarly place the detonators as described in Para (4) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- [v] 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 the distance as far away as he can go.

[viii] Thereafter he warns the Loco pilot and stops the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

[B] ON SINGLE LINE SECTION:

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

[C] OTHER ACTION TAKEN BY GATE MAN:

[i] At night gate man shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub para [A] above.

[ii] If the gate is broken by the road vehicle which is fouling by track, or if lifting barrier or any other part of the gate found the track, or if there is any other obstruction at the gate, the gate man shall take immediate action.

[iii]He shall note down the particulars of 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 census of traffic at level crossings.

7. SPECIAL INSTRUCTIONS FOR DIFFERENT TYPES OF LEVEL CROSSINGS:

Instructions for different types of manned level crossing gates are given in Annexures as follows:-

- | | |
|--------------|--|
| Annexure-I | Engineering level crossing gate, Interlocked with gate signals, provided with telephone, with normal position 'Open to road traffic'. |
| Annexure-II | Traffic Level Crossing Gate, Inter locked with stop signals of the station, provided with telephone, with normal position 'Open to traffic'. |
| Annexure-III | Traffic Level Crossing Gate, Inter locked with stop signals of the station, provided with telephone, with normal position 'Closed to traffic'. |
| Annexure-IV | Engineering level Crossing Gate, non-inter locked, provided with telephone, with normal position 'Open to road traffic'. |
| Annexure- V | Engineering level Crossing Gate, non-inter locked, provided with telephone, with normal position 'Closed to road traffic'. |
| Annexure-VI | Engineering level Crossing Gate, non-inter locked, not provided with telephone, with normal position 'Closed to road traffic'. |

Annexure-V

WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES, NON-INTERLOCKED, PROVIDED WITH TELEPHONE, WITH NORMAL POSITION "CLOSED TO ROAD TRAFFIC"

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

1. Mode of Operation:

- (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 conditions prescribed below.
- (ii) The Station Master before permitting each train to enter into the block section, shall ask Gateman on the telephone by giving a Private Number whether, gate is closed against road traffic for the passage of 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 the block section, unless he is assured of the closure and locking of the gate by the gateman supported by exchange of private number.
- (iv) When the gateman desires to open the gate for passage of road traffic he should ensure that
 - (1) He has not exchanged any private number with the station/cabin as per (d)(ii) above. Or
 - (2) If he has exchanged private number with the Station Master the whole of the train with 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 immediately in rear of that train or on the adjacent line(s).

Before opening the gate for road traffic, he shall display 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.

Note: Whenever LC gate is in open condition at night the gateman shall place LED based flashing red light across the track instead of banner flag.

2. Failure of Telephonic Communication:

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

- (i) Station Master at the dispatching end shall issue a caution order to the Loco Pilot of the departing train.
- (ii) The caution order shall advise the Loco pilot to whistle continuously and approach the gate cautiously.
- (iv) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- (v) The Station Master at the dispatching end shall then issue a caution order to the loco pilot before dispatching a train in the block section from his end.
- (vi) Station Master shall also advise the gateman through gangman / patrolman or Loco pilot of the first train that the telephone has become defective.
- (vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the 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.

3. Failure of Lifting Barriers

- (i) When the gate cannot be closed due to failure of lifting barriers, the gateman will immediately inform the Station Master on duty, under exchange of private number, and ensure that lifting barriers or leaf gates do not foul the track.
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.
- (ii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- (iii) After securing the gate against road traffic, he shall show green hand signal flag by day and green light by night to the loco pilot of the approaching train.
- (iv) Station Master on duty shall issue caution order to the Loco pilot of a departing train.
- (v)

- (vi) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the loco pilot before dispatching a train in the block section from his end.
- (vii) He should also advise maintenance staff responsible for maintenance of the lifting barriers / leaf gates to rectify the same at the earliest.
- (viii) Normal working will be resumed only after maintenance staff rectify the lifting barriers 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 fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (ii) Immediately after this, the gateman shall advise the Station Master on duty, regarding defects / obstruction at the gate, under exchange of private number.
- (iii) Station Master on duty shall be advised to put the reception / departure signals back to 'ON' position, if taken 'OFF' for a train.
- (iv) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- (v) He shall then rush with detonators, fuse and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no.1.5(5).
- (vi) 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 Loco pilot, owner and relay these details to the Station Master who shall not start the train unless he has been ensured by the gateman that the road vehicle or the lifting barriers are not fouling the track.

- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco pilot of all trains to proceed cautiously, and pass the gate 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 cabins and padlocks and thereafter exhibit green hand signal of the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staff rectifies the defective lifting barriers and issue reconnection / fit memo for the same.

5. Obstruction on the Track near Level Crossing:

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

**APPENDIX 'A' TO STATION WORKING RULES OF TILARU STATION LEVEL
CROSSING GATE AT KM NO. 728/33-35, LC.NO. ML-412**

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	412
2. Engineering or Traffic Gate	Traffic
3. Under control of Station Master / Permanent Way Inspector	SSE/P/CHE
4. Location at KM.	728/33-35
5. At Station	TIU
6. In between stations	KBM-TIU
7. BG / MG / NG	BG
8. Single line / Double line / Multiple line	Double line
9. Normal Position	OPEN to road traffic
10. Interlocked / Non-Interlocked	Interlocked
11. Means of Interlocking	-
12. Provision of Gate signal at Kms.	
(i) Up Line	No
(ii) Dn Line	No
13. Signalling arrangements	-
14. Means of Communication – Telephone / Bell etc.	TIU Station
15. Width of level crossing gate	7.50m
16. Type of road (NH / SH / Others)	Other
17. Name of Road	Village
18. Metalled / non-metalled	C.C.Block
19. Approach road	Metal
20. Width of the road	5.50m
21. Angle of road crossing (in case of the skew gates)	90°
22. Road gradient (if any)	
(i) North / East side	1in30
(ii) South / West side	1in30
23. Road alignment (straight/curve)	
(i) North / East side	Straight
(ii) South / West side	Straight
24. Provision of height gauges	YES
25. Type of Barriers	Lifting Barrier
26. Length of Check rails	9.5m
27. Road surface in between L-Xing gates	Level
28. Length of Rumble strip / speed breakers	5.5m
29. Road signs	Provided
30. Speed breaker indication board	Provided

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31. TVU	10179, Dt.11/2018
32. Census next due on	Date.2021
33. Demarcation for placement of Detonators	-
34. No. of Gatemen working	-
35. Nearest Railway Medical Assistance	CHE
36. Nearest Private Medical Assistance available (if any)	TIU
37. List of equipment available Yes / No	YES

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

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

1.4 MODE OF OPERATION:

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

- (i) Key-'M' is obtained after closing the LC gates lever 1.
- (ii) Lever-1 when reversed locks the level crossing boom & releases lever 2 and key 'N'.
- (iii) Key 'N' is transmitted electrically to panel in conjunction with lever 2 reversal, releases concerned signals.
- (iv) Lever 2 is provided to put back the concerned signal to 'ON' in case of emergency.

EMERGENCY RELEASE OF GATE KEY

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

- i) Station Master on duty shall first cancel the signal by signal cancellation control of the relevant signal.

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- ii) Station Master on duty then shall click on the 'Emergency gate release control' in the gate pop up menu.
- iii) The 'Red' locked indication will flash for 120 seconds and after the time has elapsed the 'Red' indication will disappear.
- iv) Station Master on duty then shall transmit 'Gate Control' by clicking 'Transmit control' (32).
- v) The 'Key In' indication (white) starts flashing suggesting the key is transmitted to Gate man.
- vi) At gate lodge an indication will appear near RKT suggesting that the key can be released from the RKT for opening of the LC gate.
- vii) Seeing the indication gate man on duty shall extract the key from RKT and operate the gate.
- viii) On release of key from RKT flashing indication will disappear. Any failure regarding transmission / extraction of gate key shall be intimated to the S&T officials for proper rectification. Till such time the failure is rectified the Station Master on duty shall pass the trains by P/IN or by P/OUT as the case may be.

1.4.1 Exchange of Private Number:

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

1.5 DUTIES OF GATEMAN:**1. ALERTNESS:**

The gateman 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, gateman will stand in the manner indicated below:

- i) Gateman will stand alternatively in front of the gate-lodge facing the approaching train.
- ii) In day time, 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 red flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.
- ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, it is necessary to leave the gate in an emergency; he must close and lock the gates against road traffic, before leaving the gate.
- iv) 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.
- v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging parts, hanging battery, and vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

- vi) Gateman shall also prepare to repeat any signal which guard may give to Loco Pilot on walkie-talkie or in any other way.
- vii) If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- viii) Gateman shall report to the nearest Station Master, Gangmate or SSE(P-Way) any defect in his gate or apparatus pertaining to it, as soon as possible.
- ix) At the gate whose signal have become defective, the gateman shall close and lock the lifting barriers on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- x) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- xi) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- xii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- xiii) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xiv) Gateman shall see that the channel for the flange of the wheel is kept clean.
- xv) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- 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.
- xviii) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

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4. ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

- i) He shall take prompt action to warn the Loco Pilot / guard of the passing train by showing red flag by day and red light by night.
- ii) He shall simultaneously try to draw the attention of the Loco Pilot / guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
- iii) If Loco Pilot / guard fails to take notice, gateman shall immediately inform the Station Master, If connected on telephone, to take appropriate action, under exchange of private number.
- iv) In case of train parting, gateman shall not show stop hand signal but shall show prescribed signal for train parting.
- v) He shall endeavour to attract the attention of the Loco Pilot / guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.
- vi) In case the train does not stop, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action, under exchange of private number.

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals, if any, in the 'ON' position.
- ii) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, if connected by telephone, regarding the defects / obstructions at the gate, under exchange of private number.
- iii) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.

The gateman shall protect the line as under:-

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a) On double line section:

- i) If both lines are obstructed the Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.
- ii) Then he will similarly plant the other red banner flag by day and a red light by night on the other line 5 meters away from the site of obstruction.
- iii) Gateman shall then proceed to protect the gate along with detonators, and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- v) Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
- vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- viii) Thereafter, he shall to warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

b) On single line section:

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- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
 - ii) Then he will similarly plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
 - iii) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
 - iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
 - v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
 - vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
 - vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- c) **Other action to be taken by Gateman:**
- i) At night Gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub paras (a) and (b) above.
 - ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.

- iii) He shall note down the particulars of the road vehicle, vehicle number, name of the Driver, owner and relay these details to the nearest Station Master or SSE(P-Way) regarding the particulars and obstructions at the level crossing gate, through messenger or through means available.

1.6 **ENGINEERING ITEMS:**

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

1.7 **SPECIAL INSTRUCTIONS FOR DIFFERENT TYPES OF LEVEL CROSSINGS:**

Instructions for different types of manned Level Crossing Gates are given in Annexures as follows:

- i) Annexure – I Engineering Level Crossing Gate, Interlocked with gate signals, provided with telephone, with normal position 'Open to road traffic'.
- ii) Annexure – II Traffic Level Crossing Gate, Interlocked with stop signals of the station, provided with telephone, with normal position 'Open to road traffic'.
- iii) Annexure – III Traffic Level Crossing Gate, Interlocked with stop signals of the station, provided with telephone, with normal position 'Closed to road traffic'.
- iv) Annexure – IV Engineering Level Crossing Gate, non-interlocked, provided with telephone, with normal position 'Open to road traffic'.
- v) Annexure – V Engineering Level Crossing Gate, non-interlocked, provided with telephone, with normal position 'Closed to road traffic'.
- vi) Annexure – VI Engineering Level Crossing Gate, non-interlocked, not provided with telephone, with normal position 'Closed to road traffic'.

ANNEXURE – II**WORKING INSTRUCTIONS FOR TRAFFIC LEVEL CROSSING GATES INTERLOCKED WITH STOP SIGNALS OF THE STATION, PROVIDED WITH TELEPHONE, WITH NORMAL POSITION “OPEN TO ROAD TRAFFIC” AT KM 728/33-35 in TILARU YARD**

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

1.0 MODE OF OPERATION:

As described in 1.4 of Appendix-A.

Exchange of Private Number:

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

2.0 Failure of Telephonic Communication:

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

- (i) Station Master on duty shall send written advice to the gateman through the porter with full details of number, description and direction of the train.
- (ii) Gateman on receipt of such advice shall close the gate and transmit the key to the Station Master which will enable them to take ‘OFF’ reception / departure signals.
- (iii) When sufficient time is not available because of greater frequency of train service Station Master will issue written authority to the train Loco Pilot to pass the signal at ‘ON’ position.

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- (iv) In addition Station Master shall also issue a caution order advising the Loco Pilot to whistle continuously and approach the gate cautiously.
- (v) The train Loco Pilot shall be instructed to pass the gate cautiously, on being hand signalled by the gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the gate and ensure that gate is closed following GR 3.73(2)(b).
- (vi) In case of an approaching train, the Station Master shall advise the Station Master at the despatching end, under exchange of Private Number that the telephone at the gate has failed.
- (vii) The Station Master at the despatching end shall then issue a caution order to the locopilot before despatching a train in the block section from his end.
- (viii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the defect at the earliest.
- (ix) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection / fit memo for the same.

3.0 Failure of Lifting Barriers :

- (i) When the gate cannot be closed due to failure of Electrical operation of lifting barriers, gate man will immediately inform the SM on duty under exchange of private number and ensure the lifting barriers do not foul the track.
- (ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- (iii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- (iv) After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light by night to the Loco Pilot of the approaching train.
- (v) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
- (vi) He shall also advise the Station Master at the despatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching a train the block section from his end.
- (vii) Station Master will advise maintenance staff responsible for maintenance of lifting

barriers to repair the defect at the earliest.

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

Note:

- (a) In case of failure of lifting barriers worked from the cabin, Station Master will send station porter to secure the gate against road traffic by safety chains and padlocks.
- (b) Authority to pass signals at 'ON' position as per rules shall also be issued to the Loco Pilot of both departing and arriving trains.

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

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

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

- (i) If the gate key cannot be extracted from EKT-2 on gate panel in open position of the gate, the gate man must immediately inform SM on duty over exchange of private number.
- (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception / dispatch of trains as prescribed for non-interlocked gates should be adopted.
- (iii) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass the trains on hand signals.
- (iv) Station Master on duty shall issue caution order to the Loco Pilot of a departing train.
- (v) He shall also advise the Station Master at the dispatching end under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) Station master will advice S&T staff responsible for electrical key transmitter to rectify the defect at the earliest.
- (vii) Normal working will be resumed only after S&T staff repairs the electrical key transmitter and reconnection/fit memo for the same.
- (viii) After rectification, the Emergency Key shall be replaced in the Emergency Key Box and released by the S&T maintainer.

6.0 Obstruction at the Gate:

- (i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (ii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defects / obstruction at the gate, under exchange of private number.
- (iii) Station Master on duty shall be advised to put the reception / departure signals back to 'ON' position, if taken 'OFF' for a train.
- (iv) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- (v) Gateman shall then rush with detonators, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no.1.5(5).

- (vi) There he shall protect the gate from the other direction also.
- (vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.
- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstructions.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco Pilot of all train to proceed cautiously, and pass the reception / departure signal at 'ON' position on green hand signal of the gateman, of the gate is broken, but is clear of any obstruction.
- (xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection / fit memo for the same.

8. Obstruction on the Track near Level Crossing:

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

APPENDIX 'A' TO STATION WORKING RULES OF TILARU STATION LEVEL CROSSING GATE AT KM NO. 730/11-13, LC.NO. ML-414.**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:	ML-414
2.Engineering or Traffic Gate:	Engineering gate(A-class)
3.Under control of Station Master/Permanent Way inspector: SSE [P] CHE	
4.Location at KM:	730/11-13
5.At Station:	--
6.In between station:	TIU-ULM.
7. BG/MG/NG:	BG
8.Signal line/Double line/Multiple line:	Double Line
9.Normal Position:	Opened to Road Traffic.
10.Inter Locked/Non-Interlocked:	Interlocked.
11.Means of interlocked:	Ground Lever Frame
12.Provision of Gate signal at KMs:	1. UP line:730/7-5 2. DN line:730/16-18.
13.Signaling arrangement:	MACLS
14. Means of communication-Telephone/Bell etc: Telephone connected with TIU Station.	
15. Width of level crossing gate:	14.0 Mtrs.
16. Type of road {NH/SH/Other}:	SH
17. Name of road:	Narasannapeta-Parlakhemundi Road
18. Metaled/Non-Metaled:	Metaled
19. Approach road:	Metaled.
20. Width of the road:	11.5 mtrs.
21. Angle of road crossing -[In case of the skew gates]:	90 ⁰ .
22. Road gradients {If any}:	1. North/East side: Level 2. South/West side: Level
23. Road alignment {Straight/Curve}:	In Straight
24. Provision of height gauge:	Provided.
25. Type of Barriers:	Coupled Lifting Barriers
26. Length of check rail:	16 Mtrs.
27. Road surface in L-Xing gate:	Level CC Slabs.
28. Length of Rumble strip /speed breakers:	11Mtrs.
29. Road signs:	Provided.
30. Speed breaker indication board:	Provided.
31. TVU:	187130 NOV-2018
32. Censes next due on:	Nov-2021
33. Demarcation for placement of detonators:	Provided.
34. No. of Gate men working:	Three

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35. Nearest Railway Medical Assistance:

Rly. Health Unit CHE

36. Nearest private Medical Assistance {If Any}:

Tilaru

37. List of equipment available Yes/No.....

Yes.

1.2 EQUIPMENTS:

ITEMS	QUANTITY/NUMBERS
1. Hand Signal Lamp Tri Colour.	3Nos.
2. Hand Signal Flag Green.	1 No with mounted stick
3. Hand Signal Flag Red.	3 Nos.
4. Banner Flag Red.	3Nos.
5 Posts for exhibiting red banner flag	2.Nos
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in tin case
8. Gate lamps	2 Nos.
9. Tommy Bar	1No
10. Mortar Pan	1No
11. Spade/Fowrah	1No
12. Rammer	1No [In case of asphalted road this may not be provided.]
13. Pick Axe	1No [In case of asphalted road 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.

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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.

- (i) Gate Working Instructions In Hindi/English.
- (ii) Gate Working Instructions in Local vernacular language.
- (iii) Gateman Rule Book in Local vernacular language.
- (iv) List for tools and books.
- (v) Duty registers.
- (vi) Certificate for working as gateman.
- (vii) Bio-data particulars of Gateman, including date of passing vision test, Initial/refresher course, safety camp etc.,
- (viii) Accident Register.
- (ix) Records of last census of road traffic at level crossing gate.
- (x) Public Complaint Book.
- (xi) Inspection Book.

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. When level crossing gate is required to be opened for passage of road traffic, the gate man must first open the gate farthest away from approaching road traffic and then open the gate on the side nearest the approaching road traffic.

- (i) Key 'F' released from the winch after closing the level crossing gate releases Gate Lever No 3 GF.
- (ii) Lever 3 GF thus reversed effects boom Locking and releases Lever No 2 GF and 4 GF to take OFF DN Gate Home and UP Gate Home signals respectively.

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 nighttime, 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 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 gates on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco pilot to 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 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.

2. 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 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 endeavor 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, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action under exchange of private number.

3. 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.

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- [ii] Thereafter, if he is unable to remove the obstruction, gateman shall immediately advice 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 DOUBLE LINE SECTION:

- [i] If the both lines are obstructed, the Gateman shall plant a red banner flag by day and the red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.
- [ii] Then he will similarly plant the other red banner flag by day and the red light by night on the other line 5 meters away from the site of obstruction.
- [iii] Gateman shall then proceed to protect the gate along with detonators and red flags by day and red hand signal lamp by night.
- [iv] Gateman shall proceed exhibiting red flags by day and red light by night on the line on which a train is expected to arrive first, to a point 600 Mtrs and place one detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line shall return to the level crossing gate picking up the intermediate detonator on his way back.
- [iii] Gateman shall then proceed to protect the gate along with detonators and red flags by day and red hand signal lamp by night.
- [iv] Gateman shall proceed exhibiting red flags by day and red light by night on the line on which a train is expected to arrive first, to a point 600 Mtrs and place one detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line shall return to the level crossing gate picking up the intermediate detonator on his way back.
- [v] Thereafter he shall proceed on the other line, showing red hand signal, similarly place the detonators as described in Para (4) about 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 the distance as far away as he can go.
- [viii] Thereafter, he shall warn the Loco pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

[B] ON SINGLE LINE SECTION:

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

[C] OTHER ACTION TAKEN BY GATE MAN:

- [i] At night gate man shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub para [A] above.
- [ii] If the gate is broken by the road vehicle which is fouling by track, or if lifting barrier or any other part of the gate found the track, or if there is any other obstruction at the gate, the gate man shall take immediate action.
- [iii] He shall note down the particulars of 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 census of traffic at level crossings.

7. SPECIAL INSTRUCTIONS FOR DIFFERENT TYPES OF LEVEL CROSSINGS:

Instructions for different types of manned level crossing gates are given in Annexures as follows:-

- | | |
|--------------|---|
| Annexure-I | Engineering level crossing gate, Inter locked with gate signals, provided with telephone, with normal position 'Open to road traffic'. |
| Annexure-II | Traffic Level Crossing Gate, Inter locked with stop signals of the station, provided with telephone, with normal position 'Open to road traffic'. |
| Annexure-III | Traffic Level Crossing Gate, Inter locked with stop signals of the station, provided with telephone, with normal position 'Closed to road traffic'. |
| Annexure-IV | Engineering level Crossing Gate, non-inter locked, provided with telephone, with normal position 'Open to road traffic'. |
| Annexure- V | Engineering level Crossing Gate, non-inter locked, provided with telephone, with normal position 'Closed to road traffic'. |
| Annexure-VI | Engineering level Crossing Gate, non-inter locked, not provided with telephone, with normal position 'Closed to road traffic'. |

ANNEXURE - I**WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATE AT KM NO. 730/11-13, LC NO. 414 INTERLOCKED WITH GATE SIGNALS, PROVIDED WITH TELEPHONE WITH NORMAL POSITION"OPEN TO ROAD TRAFFIC"**

(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 'F' released from the winch after closing the level crossing gate releases

Gate Lever No 3 GF.

(ii) Lever 3 GF thus reversed effects boom Locking and releases Lever No 2 GF

and 4 GF to take off DN Gate Home and UP Gate Home signals respectively.

2. Exchange Of Private Number:

(i) Immediately after the departure of the train, Station Master shall advise the gateman through telephone connected at his end , the number, description, direction and expected time of passage of the train at the gate, under exchange of private number.

(ii) If the telephone is connected to the station at the receiving end, this advice shall be given by the Station Master to the gate man, under exchange of private number ,as soon as he receives train enter 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, Station Master 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 to excessive detention to road traffic.

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3. Failure of Telephonic Communication:

- (i) When Telephonic Communication fails or it does not get any response from the Gateman despite 2 or 3 attempts, the following procedure should be adopted.
- (ii) If the telephone fails at the gate connected with the station at the dispatching end, Station Master shall issue a caution order to the Loco pilot of the departing train.
- (iii) Station Master shall advise the Loco pilot to whistle continuously and proceed cautiously while approaching the gate.
- (iv) In case the gate signal is 'ON' he should stop short of the gate signal and follow the procedure laid down under GR 3.73.
- (v) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- (vi) 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.
- (vii) Station Master will also advise the gateman through Gangman/Patrolman /Loco pilot of the first train that the telephone has become defective.
- (viii) Station Master 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 Barriers:

- (i) When the gate cannot be closed due to failure of lifting barring, the gate man 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 to the other end.
- (iii) Gateman shall secure the gate against road traffic by means of safety chains and padlock.
- (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, and similarly issue a caution order to the Loco pilot before dispatching s train in the block section.
- (vii) Normal working will be resumed only after maintenance staff repair the lifting barrier and issues reconnection /fit memo for the same.

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

- (i) If the gate key cannot be extracted from the winch gate, signal lever or key transmitter then gate man must immediately inform the Station Master on duty on telephone, under exchange of private number.
- (ii) If Emergency Key is available at the gate lodge, gateman will take it out from the sealed box by breaking the seal and open the gate for road traffic.
- (iii) The record of the date and time of breaking the sealed cover of emergency key box shall be recorded and signed with reasons.
- (iv) Thereafter, the gate must be treated as non-interlocked and produced for reception / Dispatch of trains as prescribed for non-inter locked gates should be adopted.
- (v) Station Master on duty shall issue caution order to the Loco pilot before dispatching a train.
- (vi) He shall also advise the Station Master at the dispatching end, exchange of private number, to similarly issue caution order the Loco pilot before dispatching a train in block section for his end.
- (vii) Station Master shall advice S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- (viii) Normal working will be resumed only after S&T staff repair the key transmitter and issue re-communication / fit memo for the same.
- (ix) After rectification, the Emergency key shall be replaced in the emergency key box and re sealed by the S&T maintainer.

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

- (i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange of private number.
- (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception /dispatch of train as prescribed for non-interlocked gates should be adopted.
- (iii) The gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals.
- (iv) Station Master on duty shall issue a caution order to Loco pilot of a departing train.
- (v) He shall also advise the Station Master at the dispatching end, under exchange of private number, to issues a caution order to the Loco pilot before dispatching a train in the block section from his end.
- (vi) Station Master shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- (vii)After rectification, the Emergency Key Box to be resealed by the S&T maintainer.

7. Defective Gate Signals:

- (i) The gate man shall treat the gate signal as defective and must not take off under following circumstances:
 - (a) If gate signal can be taken 'OFF' without closing the gate, or
 - (b) The key can be extracted from the operating winch when the gate is in open condition, or
 - (c) If the gate signal or the gate distant signal becomes defective in 'OFF' position, the gateman will make all efforts to put it at 'ON' position.
- (ii) The gate man will immediately advise the Station Master on duty, under exchange of private number, regarding defective gate signals.
- (iii) Thereafter, the gate must be treated as non-interlocked and procedure for reception /dispatch as prescribed for non-interlocked gates should be adopted.
- (iv) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- (v) Station Master on duty will issue a caution order to the Loco pilot of a departing train.
- (vi) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco pilot before dispatching a train in the block section from his end.
- (vii) Station Master shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- (viii) Normal working will be resumed only after S&T staff rectify the defective gate signal and issue reconnection /fit memo for the same.

8. 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 gate man 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 /obstruction 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 the phone.
- (v) Gateman shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General 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 Loco pilot, 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 obstruction the gateman shall inform to the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco pilot of all trains to proceed cautiously, and pass the 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.

9. Obstruction on the Track near Level Crossing Gate:

If there is a rail fracture or obstruction on the track due to falling of the 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.8 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' TO STATION WORKING RULES OF TILARU STATION LEVEL CROSSING GATE KM NO. 734/1-3, LC NO. ML - 417".

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: | ML-417 |
| 2. | Engineering or Traffic Gate: | Engg.gate-"B1" Class |
| 3. | Under control of Station Master/Permanent Way inspector: | SSE/P.WAY/ CHE |
| 4. | Location at KM: | 734/1-3 |
| 5. | At Station | ---- |
| 6. | In between station | TIU-ULM. |
| 7. | BG/MG/NG: | BG |
| 8. | Signal line/Double line/Multiple line | Double Line |
| 9. | Normal Position: | Open to Road Traffic. |
| 10. | Inter Locked/Non-Interlocked: | Interlocked. |
| 11. | Means of interlocking: | MACLS
Panel Interlocked |
| 12. | Provision of Gate signal at KMs:1) UP line: 732/27-29 (2) DN line: 733/9-11 | |
| 13. | Signaling arrangement: | ---- |
| 14. | Means of communication-Telephone/Bell etc: | Telephone connected with TIU Station. |
| 15. | Width of level crossing gate: | 7.5 Mtrs. |
| 16. | Type of road {NH/SH/Other}: | Others. |
| 17. | Name of road: | Urlam-Srimukalingam |
| 18. | Metaled/Non-Metaled: | Metalled. |
| 19. | Approach road: | Metalled. |
| 20. | Width of the road: | 5.5 Mtrs. |
| 21. | Angle of road crossing - | 90 ⁰ |
| 22. | Road gradients {If any}: | 1.North/East side: Level
2 South/West side:1 in 20 |
| 23. | Road alignment {Straight/Curve}: | 1) North/East side: Straight.
2) South/West side: Straight |
| 24. | Provision of height gauge: | Provided. |
| 25. | Type of Barriers: | Lifting barrier. |
| 26. | Length of check rail: | 9.5 Mtrs. |
| 27. | Road surface in L-Xing gate: | Level C.C. Blocks |
| 28. | Length of Rumble strip /speed breakers: | 5.5 Mtrs. |
| 29. | Road signs: | Provided. |
| 30. | Speed breaker indication board: | Provided. |
| 31. | TVU: | 45124 oct-2018 |

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- | | | |
|-----|--|---------------|
| 32. | Census next due on: | oct-2021. |
| 33. | Demarcation for placement of detonators: | Provided. |
| 34. | No. of Gate men working : | Two |
| 35. | Nearest Railway Medical Assistance: | CHE |
| 36. | Nearest Private Medical Assistance {If Any}: | Narasannapeta |
| 37. | List of equipment available Yes/No..... | Yes. |

1.2 EQUIPMENTS:

ITEMS	QUANTITY/NUMBERS
1. Hand Signal Lamp Tri Colour.	3Nos.
2. Hand Signal Flag Green.	1 No with mounted stick
3. Hand Signal Flag Red.	3 Nos.
4. Banner Flag Red.	2Nos.
5. Posts for exhibiting red banner flag	2Nos
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in tin case
8. Gate lamps	2 Nos.
9. Tommy Bar	1No
10. Mortar Pan	1No
11. Spade/Fowrah	1No
12. Rammer	1No[in case of asphalted road this may not be provided.]
13. Pick Axe	1No[in case of asphalted road 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	No
23. A small size chain in case of failure of Boom/Lock	2 Nos

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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 fir 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.
11. Inspection Book.
12. S&T Failure Register.

1.4 MODE OF OPERATION:

Gate shall normally be kept open to road traffic. Whenever it is required to close the gate, SM shall inform the gateman on duty about the direction and description of the train intended to receive, dispatch supported by private number. Gateman on duty shall ensure clearance of road traffic and lock the gate. Thereafter, he will perform the following procedure to take off the gate Home signals as the case may be.

- (i) Key 'G' is obtained from winch after closing the level crossing gate and releases 1 GF.
- (ii) Lever no. 1 GF reversed effects the level crossing boom locking and releases key 'G1'.
- (iii) Key 'G1' extracted after boom locking is to be inserted in EKT and turned.
- (iv) Key 'IN' contact of EKT along with reversal of switches 1S, 2S will clear signals 1S and 2S respectively.

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 nighttime, 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 red banner flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.
- [ii] Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- [iii] 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.
- [iv] 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.
- [v] 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.
- [vi] Gateman shall also be prepared to repeat any signal which guard may give to Loco pilot on walkie-talkie or in any other way.
- [vii] 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.
- [viii] 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.
- [ix] In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position.
- [x] 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.
- [xi] Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- [xii] Gateman shall ensure that he is having competency certificate in his possession while on duty.
- [xiii] Gateman shall work the gate as per gate working instructions and remain well conversant with his instruction.
- [xiv] Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- [xv] Gateman shall see that the channel for the flange of the wheel is kept clean.
- [xvi] Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- [xvii] Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.

[xviii] 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.

[xix] 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 falls 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 endeavor 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 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 advice 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 DOUBLE LINE SECTION:

- [i] In the both lines are obstructed The Gateman shall plant a red banner flag by day and the red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.
- [ii] Then he will similarly plant the other red banner flag by day and the red light by night on the other line 5 meters away from the site of obstruction.
- [iii] Gateman shall then proceed to protect the gate along with detonators and red flags by day and red hand signal lamp by night.
- [iv] Gateman shall proceed exhibiting red flags by day and red light by night on the line on which a train is expected to arrive first, to a point 600 Mtrs and place one detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line shall return to the level crossing gate picking up the intermediate detonator on his way back.
- [v] Thereafter he shall proceed on the other line, showing red hand signal, similarly place the detonators as described in Para (4) about 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 the distance as far away as he can go.
- [viii] Thereafter he shall warn the Loco pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

[B] ON SINGLE LINE SECTION:

- (i) Gateman shall plant a red banner flag by day and a red light 5 meters away on posts duly provided for the purpose. He shall first protect the line in the direction from which a train is expected to arrive first.
- (ii) Then he will similarly plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
- (iii) Gateman shall then proceed to protect the gate along with detonators, and red flag by day and red hand signal lamp by night.

- (iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.
- (v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- (vi) Having returned to this gate, he must then take steps to remove the obstruction mobilizing any assistance locally available and warn the loco pilot of any approaching train.
- (vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.

[C] OTHER ACTION TAKEN BY GATE MAN:

- [i] At night gate man shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub para [A] above.
- [ii] If the gate is broken by the road vehicle which is fouling by track, or if lifting barrier or any other part of the gate found the track, or if there is any other obstruction at the gate, the gate man shall take immediate action.
- [iii] He shall note down the particulars of 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 census of traffic at level crossings.

7. SPECIAL INSTRUCTIONS FOR DIFFERENT TYPES OF LEVEL CROSSINGS:

Instructions for different types of manned level crossing gates are given in Annexures as follows:-

- Annexure-I Engineering level crossing gate, Inter locked with gate signals, provided with telephone, with normal position 'Open to road traffic'.
- Annexure-II Traffic Level Crossing Gate, Inter locked with stop signals of the station, provided with telephone, with normal position 'Open to road traffic'.
- Annexure-III Traffic Level Crossing Gate, Inter locked with stop signals of the station, provided with telephone, with normal position 'Closed to road traffic'.
- Annexure-IV Engineering level Crossing Gate, non-inter locked, provided with telephone, with normal position 'Open to road traffic'.
- Annexure- V Engineering level Crossing Gate, non-inter locked, provided with telephone, with normal position 'Closed to road traffic'.
- Annexure-VI Engineering level Crossing Gate, non-inter locked, not provided with telephone, with normal position 'Closed to road traffic'.

ANNEXURE-I**WORKING INSTRUCTION FOR ENGINEERING LEVEL CROSSING GATES, NON-INTERLOCKED, PROVIDED WITH TELEPHONES, WITH NORMAL POSITION "OPEN TO ROAD TRAFFIC AT KM NO. 734/1, LC NO. ML-417".****1 MODE OF OPERATION:**

Gate shall normally be kept open to road traffic. Whenever it is required to close the gate, SM shall inform the gateman on duty about the direction and description of the train intended to receive, dispatch supported by private number. Gateman on duty shall ensure clearance of road traffic and lock the gate. Thereafter, he will perform the following procedure to take off the gate Home signals as the case may be.

- (i) Key 'G' is obtained from winch after closing the level crossing gate and releases 1 GF.
- (ii) Lever no. 1 GF reversed effects the level crossing boom locking and releases key 'G1'.
- (iii) Key 'G1' extracted after boom locking is to be inserted in EKT and turned.
- (iv) Key 'IN' contact of EKT along with reversal of switches 1S, 2S will clear signals 1S and 2S respectively.

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 under exchange of private number.

(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 gateman 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 are it does not get any response from the gate man despite 2 or 3 attempts, the following procedure should be adopted.

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[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.

[iii] The Loco pilot shall be instructed to pass the gate cautiously, on being hand signaled by the gate man. If hand signal is not seen, Loco pilot shall 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.

[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 BARRIERS:

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

(i)If the gate key cannot be extracted from the winch gate, signal lever or key transmitter then gate man must immediately inform the Station Master on duty on telephone, under exchange of private number.

(ii)If Emergency Key is available at the gate lodge, gateman will take it out from the sealed box by breaking the seal and open the gate for road traffic.

(iii)The record of the date and time of breaking the sealed cover of emergency key box shall be recorded and signed with reasons.

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

(v)Station Master on duty shall issue caution order to the Loco pilot before dispatching a train.

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

(vii)Station Master shall advice S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.

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

(ix)After rectification, the Emergency key shall be replaced in the emergency key box and re sealed by the S&T maintainer.

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

(i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange of private number.

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

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

(iv) Station Master on duty shall issue a caution order to Loco pilot of a departing train.

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

(vi) Station Master shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.

(vii) After rectification, the Emergency Key Box to be resealed by the S&T maintainer.

7. Defective Gate Signals:

(i) The gate man shall treat the gate signal as defective and must not take off under following circumstances:

(a) If gate signal can be taken 'OFF' without closing the gate, or

(b) The key can be extracted from the operating winch when the gate is in open condition,
or

(c) If the gate signal or the gate distant signal becomes defective in 'OFF' position, the gateman will make all efforts to put it at 'ON' position.

(ii) The gate man will immediately advise the Station Master on duty, under exchange of private number, regarding defective gate signals.

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

(iv) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.

(v) Station Master on duty will issue a caution order to the Loco pilot of a departing train.

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

(vii) Station Master shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.

(viii) Normal working will be resumed only after S&T staff rectify the defective gate signal and issue reconnection /fit memo for the same.

8. 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 Loco pilot, 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.

9. 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 'B'

STATION WORKING RULES OF TILARU STATION

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

1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:

This is a 'B' class station provided with Standard –III(R) interlocking. The station is provided with Route setting type Electronic Interlocking between points, signals, track circuits and other signalling gears. The Station is equipped with Multiple Aspect Colour Light Signaling. All points and Signals etc. are power operated through a central **Visual Display Unit (VDU) in dual configuration** is installed in the SS/DY. SS's Office.

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

The Operator Console cum Visual Display Unit (VDU) is provided for operation of Signals, Points, L.C Gates, Crank Handles, Siding & other controls etc. A Mimic yard diagram based on SI plan no. SI/23005 Alt-'H' will be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the Station yard mimic diagram of VDU will be dynamically updated.

2.1 SYSTEM OVERVIEW:

The PC based (Operator VDU) for the operation of Signals, Points, Crank handles and siding Controls, etc. The SM of a station (herein after referred as operator) required to be familiar on the specific station's SWR.

An Operator Console consisting of a VDU with a Standby, with keyboard and pointing device (mouse) connected with a computer (CPU) is provided. The CPU is connected to the Electronic Interlocking (E.I) equipment to exchange control and indication messages. The system is programmed to display the Station Yard Mimic VDU diagram on the VDU and that it allows access to all functions through pop-up menus. When a particular function is selected, an appropriate Menu will appear on the screen. A function (clearance of Signal or cancellation, Route release, Point operation, Gate release etc.) can be executed through selecting the required operation by clicking the Left button of the pointing device (mouse) on the desired function.

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

2.2 An additional VDU connected with a computer is provided as standby arrangement in case of failure of the working operator console. In case of failure of the working operator console the system shall switch over to the stand by VDU automatically.

2.3 ICONS AND INDICATIONS PROVIDED ON THE VDU

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

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

S No	ICONS	INDICATIONS	FUNCTIONS	REMARKS
8.	Signal failure Ack. button	Yellow	Flashing indication appears when any signal fails. SS/ SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. Inform S&T staff Immediately.
9.	---	Main Filament Failure Indication	Flashing indication appears when Main filament of any signal fails.	
10.	CH-1, CH-2, CH-3 and CH-4 buttons	Yellow lamp indicates 'KEY IN'. Red lamp indicates 'CH LOCKED'	In normal condition yellow lamp will be lit. Whenever the crank handle is locked in route or otherwise red indication will glow.	
11.	DN Reset key and button (ULM end)	Yellow-Power on Green-prep reset	SS/SM has to follow 'Key In' procedure followed by left click on the button icon to reset LVCD Axle counter.	This operation is required for Resetting of LVCD Axle Counter of Concerned Section. For each operation concerned counter shall register one count higher.
12.	UP Reset key and button (KBM end)	Yellow-Power on Green-prep reset		
13.	DN Reset key and button (KBM end)	Yellow-Power on Green-prep reset		
14.	UP Reset key and button (ULM end)	Yellow-Power on Green-prep reset		
15.	DN IB Axle counter Reset key and button (KBM end)	Yellow - Power on Green-prep reset	SS/SM has to follow 'Key In' procedure followed by left click on the button icon to reset IB Axle counter.	Permission is granted by KBM. For each operation concerned counter shall register one count higher.
16.	'Permission received from KBM' Acknowledgement button	Yellow -Permission Received	To acknowledge SS/ SM has to left click on the Acknowledgement button	

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17.	'Permission granted to KBM' button	Yellow - Permission granted	To grant permission for resetting SS/ SM has to left click on the permission granting button	
18.	'DN Train Run away' in IB section muting button	Yellow - acknowledged	On getting alarm/buzzer SS/ SM shall left click on the button icon to acknowledge the incident.	Buzzer will sound. On acknowledge-ment buzzer stops. Inform S&T staff Immediately.
19.	'UP Train Run away' in IB section muting button	Yellow - acknowledged	On getting alarm/buzzer SS/ SM shall left click on the button icon to acknowledge the incident.	
20.	'DN Train Entering Section' muting button	Yellow - acknowledged	On getting alarm/buzzer SS/ SM shall left click on the button icon to acknowledge it.	
21.	'UP Train Entering Section' muting button	Yellow - acknowledged	On getting alarm/buzzer SS/ SM shall left click on the button icon to acknowledge it.	
22.	UP Block release button	Yellow – Prepared for Block release.	On getting indication SS/SM shall left click on the button icon which shall release Block Handle.	After complete arrival of train this will be activated
23.	DN Block release button	Yellow – Prepared for Block release.		
24.	L.C.Gate control-29 button	Yellow lamp indicates 'Gate Closed'. Red lamp indicates 'Gate LOCKED'.	SS/SM shall right click on the button icon to select menu to Transmit / Receive/ emergency operation of gate as required.	In case of emergency operation 'Emergency gate release' indication will appear. For each operation concerned counter shall register one count higher.
25.	Sdg. Control – 30	Yellow lamp indicates 'KEY IN'. Red lamp indicates 'SDG. LOCKED'	SS/SM shall right click on the button icon to select menu to Transmit / Receive of siding control as required.	

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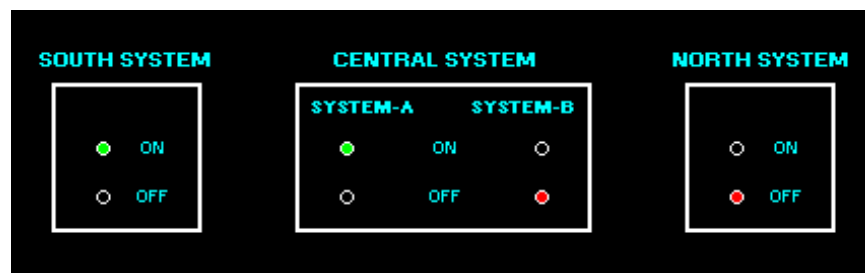
SL. NO.	ICONS	INDICATIONS	FUNCTIONS	REMARKS
26	Counter	-	As and when required SS/SM shall point the curser on the counter icon and right click on it. A drop down menu will appear indicating all the counters available in the system. SS/Dy. SS shall select the required counter on the menu and can read the latest counter reading.	-
27	Line Block button	Red when blocked	SS/SM shall point the curser on the icons provided on the berthing track and right click. One drop menu will appear indicating line blocked and un-blocked, SS/SM has to select the required menu.	When line block is selected the concerned berthing portion of track will appear as thick Red line.

3.0 OPERATIONAL PROCEDURE THROUGH VDU AND INDICATIONS:

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

3.1 ELECTRONIC INTERLOCKING (E.I) SYSTEM INDICATIONS:

Electronic Interlocking Equipment (E.I) at the center along with both goomties can work in either of the two modes i.e, System-‘A’ or System-‘B’. On the VDU (Computer), there are two system indications in which Green indication mentioning the On-line system and the Red indication mentioning that the system is in power off condition.

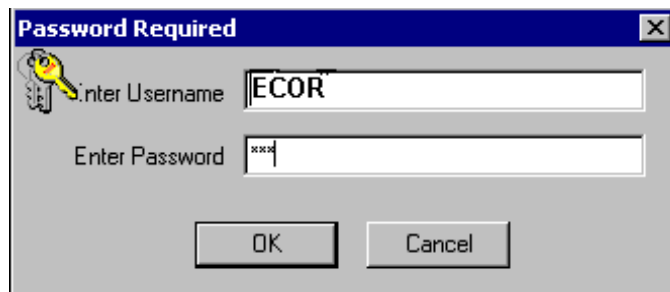


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3.2 **OPERATION PROCEDURE OF SS/ SM KEY :**

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



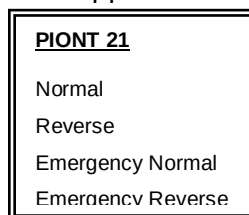
Enter the USER NAME and PASSWORD and click the OK button.

Now the OP VDU is ready for use & the entire yard can be controlled from the VDU.

Similarly select the KEY OUT when the Station Master to Prevent the Unauthorized Operation with User name and password.

3.3 **OPERATION AND INDICATION OF POINT:**

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



3.3.1 REVERSE TO NORMAL OPERATION:

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

3.3.2 NORMAL TO REVERSE OPERATION:

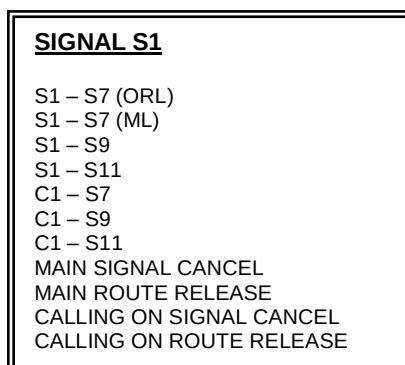
Track the pointer to REVERSE menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to reverse.

3.3.3 POINT INDICATIONS

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

3.4 PROCEDURE FOR SETTING OF ROUTES AND TAKING OFF SIGNALS:

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



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

3.4.1 SETTING A ROUTE AND ITS INDICATIONS:

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

3.4.2 SHUNT SIGNAL OPERATION:

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

3.4.3 CALLING ON SIGNAL OPERATION:

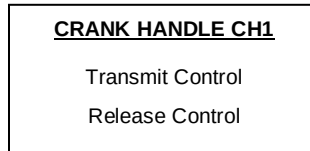
The same procedure as main signal has to be followed as explained above. To set the signal route for CALLING ON signals SS/SM on duty shall select the desired route and left click on the same after a train occupies the approach track circuit in immediate rear of the stop signal. The signal is cleared after a lapse of 120 seconds provided other conditions are fulfilled.

3.5 CRANK HANDLE CONTROL OPERATION:

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



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



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

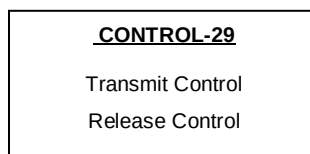
A Crank handle locked indication (Red) will appear when the particular point is on the signal route set over it or engaged in route setting in any other way.

3.6 SIDING CONTROL OPERATION:

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



The appearing pop-up menu gives details of the possible commands on the Siding Control



For Transmitting the Siding Control KEY to the field personnel SS/SM on duty has to click transmit control menu. After transmission the KEY IN indication will start flashing, now the KEY can be extracted from the RKT. After extracting the key from the RKT, the key IN indication will disappear. When the Siding point

operation is over, after putting the KEY in the RKT, A KEY IN flashing indication will appear on the VDU, Now the SS/SM has to Release the control for the Steady indication by clicking release control menu

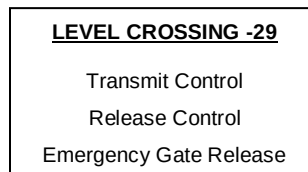
A Siding Control locked indication (Red) will appear when a route is set over the particular Siding point or in some manner it is involved in route setting procedure.

3.7 **LEVEL CROSSING GATE OPERATION:**

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



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



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

When the key is required to be transmitted to the Gate man, SS/SM on duty has to transmit the control by clicking, after transmission the KEY IN indication will starts flashing, now the KEY can be extracted from the RKT. When the gate has been closed, locked & slot lever is in reverse position, After putting the key in the

RKT, A KEY IN flashing indication will appear on the VDU. Now the SS/SM has to release the control for the steady indication.

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

3.8 OVERLAP TIME RELEASE (WHITE LIGHT):

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

4.0 EMERGENCY OPERATIONS:

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

4.1 CANCELING A ROUTE/ EMERGENCY ROUTE RELEASE:

To cancel a signal route when the route is set and the signal is taken-off, click on the signal. After clicking by the left button on the mouse a pop-up menu will appear as shown in Para 3.4 above. Click on the cancellation menu (Main/ Calling on) of the concerned signal, the signal will immediately go to 'ON' aspect, after doing so click on the Route release menu the route locked indication will start flashing for 120 sec & the Emergency Route Release Indication (UP / DN as the case may be) will flash for the entire time interval. After the completion of 120 sec, the locked route will be released. This action will be recorded in a counter. The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM on duty who shall record the details of the Route cancellation along with the latest counter no. in a register.

4.2 EMERGENCY POINT OPERATION:

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

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

4.2.1 NORMAL OPERATION

Before doing the emergency operation the Emergency Point Operation Key is to be made "KEY IN" by clicking the 'KEY IN' menu. The user name and password is to be logged in. The user name of this station is 'ECOR' and password of this station is TIU. Track the pointer to 'EMERGENCY NORMAL' menu and click. A Normal flashing indication will appear and the indication will be steady after the point is set to Normal. This action will be recorded in a counter. The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM on duty who shall record the details of the Emergency Point Operation along with the latest counter no. in a register.

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

4.2.2 **EMERGENCY REVERSE OPERATION OF POINTS:**

Before doing the emergency operation, Emergency Point Operation Key is to be made 'KEY IN' by clicking the 'KEY IN' menu. The user name and password is to be logged in. The user name of this station is 'ECOR' and password of this station is TIU. Emergency reverse menu to be clicked. Track the pointer to 'EMERGENCY REVERSE' menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to Reverse. The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM on duty who shall record the details of the Emergency Point Operation along with the latest counter no. in a register.

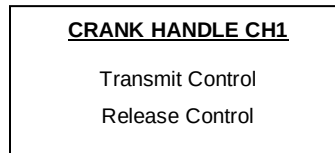
After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu. The user name and password is to be given for 'KEY OUT' also.

4.2.3 **EMERGENCY CRANK HANDLE RELEASE OPERATION :**

When a crank handle is locked due to route set earlier is not released or otherwise to Transmit or Release control of the Crank Handle, SS/SM on duty shall cancel the relevant signal first and then click on the crank handle control button icon provided like the following on the VDU.



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



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

The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM on duty who shall record the details of the Emergency Crank Handle Operation along with the latest counter no. in a register.

4.3 **EMERGENCY GATE OPERATION:**

L.C. Gate control can be released and the gate can be opened by this operation when LC gate control remains in locked condition due to setting of any of the signal routes over it or otherwise. For releasing the gate by the Emergency operation, the SS/SM on duty has to cancel the signal by signal cancellation control of the relevant signal. Then he has to click the Emergency Gate release control in the Gate pop-up menu. Now the 'LOCKED' (Red) indication will flash for 120 seconds & after the time has elapsed the 'LOCKED' (Red) indication will vanish. Now the SS/SM on duty shall transmit the 'GATE CONTROL' in this condition and 'KEY IN' indication starts flashing. Now the KEY can be extracted from the RKT at Gate Lodge and gate can be opened. This action will be recorded in a counter. The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM manually in a register.

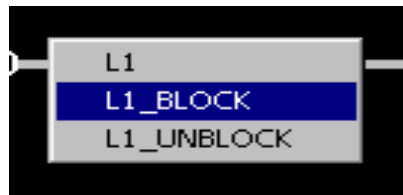
The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM on duty who shall record the details of the Emergency Gate Operation along with the latest counter no. in a register.

4.4 LINE BLOCK AND UNBLOCK (REMINDER COLLAR):

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

4.4.1 LINE BLOCK:

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

**4.4.2 LINE UNBLOCK:**

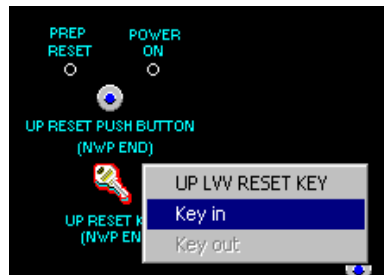
To release the set block of any particular line, the SS/SM should select "L. No.____ UNBLOCK" command using the left mouse button. After selecting the "L. No.____ UNBLOCK" that particular line will be available for the train movement leading to all the possible L1 Track circuit section.

5.0 PROCEDURE FOR RESETTING OPERATION OF LVCD (DIGITAL) AXLE COUNTER IN SECTION TIU - ULM AND TIU-KBM.

5.1 Digital Axle Counters are provided on both UP & down Block sections between TIU-KBM and TIU-ULM. The occupation and clearance of the axle counter section are indicated on VDU by RED & GREEN light respectively. When after arrival of a train the LVCD Axle counter does not show clear indication and the 'Section Occupied' indication continues to glow SS/SM on duty shall initiate resetting procedure for the LVCD Axle Counter, monitoring the Block section. Before initiating Resetting procedure SS/SM on duty shall ensure that the train which has left arrived completely at receiving station and block section is clear [free] of trains. If the track indication of that particular block section is showing 'Red' then the following actions is to be performed by the SS/SM on duty.

The SS/SM on duty at TILARU Station shall verify with on duty SS/SM at receiving station over phone, to ensure the complete arrival of the train in his station.

Resetting of Digital Axle Counter Cooperation is necessary from adjacent station.



On duty SS/SM shall track the pointer to the “**Axle Counter Reset key**” icon and click left button of the mouse and select “**KEY IN**” option.



Move the cursor pointer near to the Axle Counter Reset push button icon, and click left button of the mouse and select “**Reset**”. In VDU ‘**Power on**’ indication will appear above the reset push button and it will remain for 10 sec. This action will be recorded in a counter. The counter will increment the number for each and every such action and also, this number should be recorded by the SS/SM manually in a register.



The on duty SS/SM shall inform the SS/SM on duty at adjacent to carryout aforesaid resetting procedure. After completing reset operation in both side “**PREP RESET**” indication will appear above the reset push button icon.



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The Piloting In or out is mandatory for completion of Axle counter reset operation.

Number changed for resetting, shall be recorded in the TSR and in the register provided for this purpose.

5.2 RESETTING OPERATION FOR IB AXLE COUNTER IN I.B. SECTION:

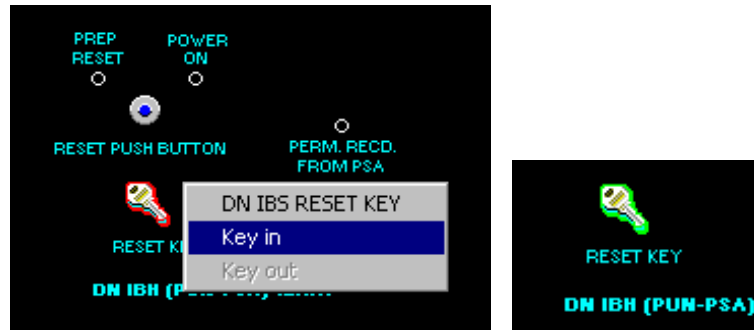
IB Axle counters are provided in IBH section between (TIU-KBM). The occupation and clearance of the I.B. Axle counter section are indicated on the VDU by RED & GREEN Indications. When after arrival of the train the axle counter does not show clear indication and the section occupation continued to glow, SS/SM on duty shall initiate re-setting procedure for the I.B. Axle counter monitoring the I.B. Section before initiating resetting procedure, SS/SM on duty shall ensure that the train which has left arrived completely at receiving station and I.B. section is clear [free] trains. If the track indication of that particular I.B. section is showing 'Red' then the following actions are to be performed by the SS/SM on duty at KBM.

Resetting of IB Axle Counter shall be carried out at Dispatch end, but before that permission shall be obtained from the receiving station.

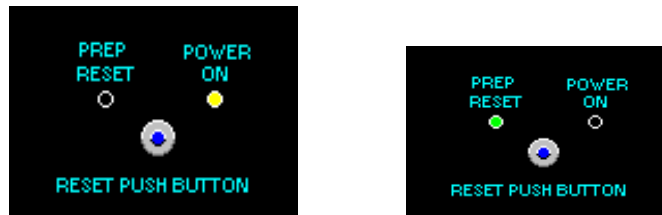
After getting the permission from receiving station "**Perm. Recd from KBM**" indication will appear above the Acknowledgement button icon



- On duty SS/SM at Tilaru need to track the pointer to the "**Axle Counter Reset key**" icon and click left button of the mouse and select "**KEY IN**" option.



After performing 'Key in operation' SS/SM on duty will move the Cursor pointer near to the Axle Counter Reset push button icon, and click left button of the mouse and select "Reset" in VDU Panel. Concerned VDU counter will change to the next higher number. After completion of reset operation first train shall be piloted out. On clearing of the piloted train over I.B Axle counter zone, axle counter will get reset and Axle counter zone clear indication will appear on VDU



The Piloting out is mandatory for completion of I.B. Axle counter reset operation.

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

6.0 SIGNAL/ POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND POINT FAILURE ACKNOWLEDGEMENT:

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

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6.2 TRAIN RUN AWAY INDICATION AND BUZZER ACKNOWLEDGEMENT:

- The Train Run away buzzer is provided for to ensure of passing a train Through IBH Signal at 'ON'.
- When the Train hits the IBH track circuit, the audible Buzzer will ring as well as red indication will appear in VDU above the runaway Muting Button. The buzzer can be silenced by pressing of acknowledgement button icon.



6.3 SHOWING OF COUNTERS:

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

1. Emergency Route Release.
2. Emergency Point Operation.
3. Emergency Crank handle release.
4. Emergency Gate release.
5. I.B. Axle counter resetting for section KBM-TIU UP line.
6. LVCD axle counter resetting for section KBM-TIU.
7. LVCD axle counter resetting for section TIU-ULM.

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

7.0 TRACK CIRCUITS:

The following track circuits are provided in this yard.

1AT, 1T₁, 1T₂, 21AT, 21BT, 23T, 25AT, 25BT, 12T, 12AT, L₁T₁, L₁T₂, L₁T₃, L₂T₁, L₂T₂, L₂T₃, L₃T₁, L₃T₂, L₃T₃, L₄T₁, L₄T₂, L₄T₃, 22AT, 22 BT, 24AT, 24 BT, 26AT, 26BT, 13 AT, 13T, 2AT, 2T₁ and 2T₂.

Indications for the above track circuits are available on VDU at SS/SM's office. Yellow strip on VDU indicates 'ROUTE IS SET AND TRACK CLEAR' and Red strip indicates 'TRACK OCCUPIED CONDITION'.

- 7.1 On account of the doubtful operation of any track circuit by a light vehicle including self-propelled vehicle such as motor trolley or light engine or tower wagon etc., indicating the occupancy/clearance of track, it is necessary that the Station Master on duty satisfies himself that the said vehicle has cleared the point zone track circuits by observing the track indications of the track on either

side of the crossovers by positively checking the 'entrance' and 'exit' track circuits are showing occupancy and clearance in accordance with the train movement.

8.0 AXLE COUNTER:

IB Axle Counters are provided in the IB sections between KBM – TIU stations for monitoring clearance / occupancy of the IB section.

SECTION TIU-KBM.

A pair of IB Axle Counters is provided between TIU-KBM on DN line one just beyond DN Advance Starter of TIU and 400 Mtr. beyond DN IB Home signal between KBM-TIU.

SECTION KBM-TIU.

A pair of IB Axle Counters is provided between KBM-TIU on UP line one just beyond UP Advance Starter of KBM station and 400 Mtr. beyond UP IB Home signal between KBM-TIU.

- (i) Entire Block Section between TIU-KBM and TIU-ULM are provided with Digital Axle Counters.

SECTION TIU-KBM:

A pair of Digital axle counter is provided between TIU - KBM on DN line one just beyond DN advanced starter of TIU and another in 14T2 track circuit beyond the DN IB Home signal of TIU for proving clearance/occupation of IB section. Similarly a pair of Digital axle counter is provided between TIU-KBM on DN line one just in the tack circuit No 14 T1 beyond DN IB Home signal of TIU and another in 2T2 track circuit beyond DN Home signal of KBM for proving clearance/occupation of LVCD section.

A pair of Digital axle counter is provided between TIU- KBM on UP line one just beyond UP Advanced starter Signal no.13 of KBM and another in 15T2 track circuit beyond the UP IB Home Signal No 15 of KBM for proving clearance/occupation of IB section. Similarly a pair of Digital axle counter is provided between TIU-KBM on UP line one just beyond UP IB Home Signal no 15 of KBM and another in 1T2 track circuit beyond UP Home signal of TIU for proving clearance/occupation of LVCD section.

SECTION TIU-ULM

A pair of Digital axle counter is provided between TIU- ULM on UP line one just beyond UP Advanced starter Signal no.13 of TIU and another in track circuit beyond the UP Home Signal at ULM for proving clearance/occupation of section. Similarly a pair of Digital axle counter is provided between TIU-ULM on DN line

one just beyond Down Advanced starter Signal of ULM and another in 2T2 track circuit beyond Dn Home signal of TIU for proving clearance/occupation of section.

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

After complete arrival of the train the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of a train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR.14.13 is to be followed. The axle counters are interlocked with the respective block instruments for that section. If Axle Counter fails, Advanced Starter signal shall not come to 'OFF' and the concerned instrument shall remain locked in last operated position for section TIU-KBM and IB Home Signals shall not assume 'OFF' aspect and the concerned Block Instruments shall remain locked in last operated position for section KBM – TIU.

A resetting arrangement for resumption of the system, in case of failure of Axle Counter, has been provided in the SS/DY. SS office of the adjacent Block stations. After being assured by both the SS/DY. SS that the last vehicle has arrived completely at the receiving station, the resetting procedure shall be initiated after exchanging Private Number vide G&SR 4.17, 4.17.01.

(Details of resetting procedure given in APPENDIX-'B' under para 5.1 of this SWR)

NOTE:

Before taking off reception and dispatch signals for UP and DN directions the SS/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. The indication of track circuit / Axle counter shall exhibit Red Light when track is occupied and Yellow light when track is clear and route is set. There will be no track indication when any route is not set.

9.0 TAKING OFF CALLING-ON SIGNAL:

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

- 9.1 To take off Calling-on signal the train must come to stop at the foot of the home signal, occupying the track circuit (1AT or 2AT as the case may be) in rear of the UP & DN Home signals. When a train occupies the track circuit, a RED light strip will appear on the VDU. The particular route on which the train is intended to be received shall be set by selecting and setting desired route through VDU by SS/SM on duty. After a lapse of 120 seconds, the Calling-on signal clears i.e. white light glows at the concerned Calling-on signal on the VDU.

NOTE:

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

- 9.2 **RELEASE/CANCELLATION OF ROUTE:**

Normally when a train is received on any route or dispatched, the route illumination will disappear automatically after passage of the train suggesting that the route is released. When the route is not released automatically after passage of train over it or when SM on duty intends to cancel the route set by him shall follow procedure for cancellation of route described in para 4.1 of APPENDIX-B above.

NOTE:

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

- 9.3 **REPLACEMENT OF SIGNALS TO 'ON':**

Signals are replaced to 'ON' automatically by the passage of a train beyond the signal. It will not be possible to re-clear the signal again unless the due process for clearing the signal is repeated again. For replacement of any signal to 'ON' position manually, the SS/SM shall follow para no. 3.4 of APPENDIX-B.

- 9.4 **INTERLOCKING OF SIGNALS:**

DN Advanced starter is interlocked with IB Axle Counter of IB section of TIU – KBM and DN IB Home is interlocked with DLBI of section TIU-KBM in Line Clear position. The Block Instrument cannot be made normal unless the respective Home signal is put back to 'ON' and the respective Block Section monitored by Axle Counter is clear of trains. Signals once taken 'OFF' can be put back to danger in case of emergency by following para no. 3.4 of APPENDIX-B even when the SM's Key is withdrawn from VDU.

UP Advance Starter signal is interlocked with the DLBI of Section i.e TIU-ULM.

9.5 PILOTING OF TRAINS IN TO STATION YARD.

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

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

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

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

NOTE:

- (i) The Station Master on duty shall personally supervise the correct setting, clamping and padlocking of the facing points, if any and ensure clearance on the nominated route vide SR [Ref. SR 3.69.03(c)]
- (ii) The keys of padlock of the clamps put ON to the points on the route for piloting In or piloting OUT shall be in the personally custody of the SS/SM on duty or any other authorized operating officials till such time the train / engine / vehicle has utilized the route or alternatively such movement is cancelled.

9.6 PILOTING OF TRAINS - OUT OF STATION YARD:

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

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

9.7 SHUNTING:

Caution aspect of starter signals for shunting up to Advance Starter.

For back shunting individual shunt signal No.3 and 4 are provided at North and South side of the yard respectively for shunting back to the station yard in desired Direction. For taking OFF Shunt signals please refer Para no. 3.4.2 of APPENDIX-B.

10.0 HOT AXLE SIDING:

The Hot axle siding at KBM end of the yard with one side entry is taking off from UP Loop (Line No.4). The entrance point and corresponding derailing switches are coupled and operated by ground lever at site. The entrance point is fitted with hand plunger locks. These hand plunger locks are unlocked by hot axle siding key K1 released by operating Sdg. Control No.30 on VDU at SS/SM office. Reception signals (i.e. 1A. C1A. in UP direction) and shunt signal Nos. SH4D and signal No.7 are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the Hot axle siding key is transmitted at site or taken 'OUT' from the RKT provided at Hot axle siding location at site.

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

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

12. CRANK HANDLING/EMERGENCY OPERATION OF POINTS:

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

13. OBSERVATION OF TRACK CIRCUIT AFTER STABLING OF TRAINS ON RUNNING LINES:

When a train is stabled on a running line for a duration exceeding ten hours, the use of the said running line for passing the trains 'IN' 'THROUGH' or 'OUT' at the station shall be done with a lot of care and diligence. Station Master on duty shall meticulously observe the proper functioning of the relevant track circuits (occupancy/clearance) while admitting a train. Such observance should continue for a minimum of four to five trains thereafter. If the Station Master on duty is not satisfied with the proper functioning of the track circuits on which the train was earlier stabled, the signals leading on the line shall be suspended and the S & T maintenance staff be informed to attend.

14. LOCKING OF RELAY ROOM:

THE Relay Room at the station is provided with double locks (two independent locks) as necessary vide Optg. Manual - 1.14. One key shall be kept with the signal maintainer of the station and the other key shall be with SS/SM on duty. The Relay room cannot be opened unless both keys are used.

Dy. SS/SM on duty shall ensure that the Relay room key is given to S&T maintenance staff under clear signature as and when required for normal maintenance and for special works and that the key should be returned by the S&T staff immediately after completion of the work and documentation shall be made in the Relay Room key register maintained at the station according to SR 3.51.05 and OM 1.14.

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

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

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

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

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

17. INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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

18. RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

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

19. PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:

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

20. EMERGENCIES:

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

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 the 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 One common emergency Crank Handle is provided for all the Motor operated Points. This is mechanically riveted to the Key of HKT. This Key along with Crank Handle can be released from the HKT by pressing the Common HKT Push Button after cutting the seal between HKT and the Crank Handle. The Station Master on duty in case of Point Motor failure will take out the Crank Handle set the Point manually by inserting Crank Handle on the Motor.
- 21.4 When the Crank Handle is removed from HKT for operation of the defective Motor Operated Points, the responsibility for its safe custody re-sets with the ASM/SM on duty till it is replaced back in HKT and sealed by Signal Maintainer.
- 21.5 The case of failure of Motor Operated Points should be promptly reported to the concerned Signal Inspector/ESM for immediate rectification.
- 21.6 Whenever an emergency Crank Handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a

- disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty will
- 21.7 obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the Points will be treated as defective till the Emergency Crank Handle is returned back to Station Master on duty.
- 21.7 Before parting with the Emergency Crank Handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.
- 21.7.1 The Emergency Crank Handle Register is to be maintained in the following proforma 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:
 3. Time 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 of dispatch for which Points are set, Clamped and Padlocked:
 8. Train number to be admitted or dispatched:
 9. Signature of the Station Master on duty to ensure correct setting, Clamping and Padlocking of the Points:
 10. Date and Time fault rectified.
 11. Time of Emergency Crank Handle received back by SM on duty:
 12. Signature and Designation of the Signal Official who rectified the fault:

IMPORTANT NOTE:

When performing shunting operations in the sidings it must be clearly noted that the siding Points are interlocked with the system in the NORMAL position of the Points and in REVERSED position they are not interlocked. The Official responsible for shunting operation must clamp the Points at the both ends before permitting any movement.

22.0 INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:**22.1 INTERLOCKING WITH HOME SIGNALS:**

All the UP and DOWN HOME Signals are electrically interlocked with the respective DLBI so that before the handle of the DLBI Instrument can be turned from TRAIN COMING FROM position to LINE CLOSED position of UP or DOWN direction as the case may be must be in their NORMAL position.

22.2 The UP Advanced Starter Signal is Electrically interlocked with DLBI of section TIU-ULM so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in 'LINE CLEAR' position.

22.3 The DN advanced starter signal is controlled and interlocked with I.B. Axle counter section between TIU-KBM & Down I.B. Home signal is interlocked with DLBI of section TIU-KBM so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in 'LINE CLEAR' position.

22.4 SUSPENSION OF LAST STOP SIGNALS & I.B. HOME SIGNAL:

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

When the Double line block instrument for section KBM-TIU is suspended with its handle in any position for whatever reason the concerned I.B. Home Signals controlled by the DLBI must be treated as suspended and trains shall be Piloted Out.

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

23.1 Digital Axle Counters are provided on both Up and Down line Block Sections between TIU -KBM and TIU-ULM.

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

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

23.5. No train shall 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 taken OFF. [Refer Para No.5 of appendix 'B' for procedure of resetting of LVCD Axle counter].

24.0 TELECOMMUNICATIONS:

a) The Station is connected to VSKP - PSA Main line Control Circuit.

- b) Telephone attached to SGE type Lock and Block Instruments for sections TIU-KBM and TIU-ULM.
- c) Railway Auto telephone is provided at the station.
- d) BSNL /CUG Telephone is provided at this station.
- e) Hot line telephone communication is provided between TIU-KBM and TIU - ULM stations.
- f) Telephone communication is provided between Station Master to Up CH locations and to DN CH Locations.
- g) Telephone communication attached to L.C. Gate ML-417, 734/1-3, ML-416, 733/5-7, ML-414, 730/11-13, ML-412, 728/33-35, ML-411, 727/3-5, ML-410, 726/5-7.
- h) Telephone is provided on DN IBH Signal No.14 between TIU-KBM.
- i) The station is connected to VSKP - PSA traction power control circuit.
- j) VHF set is provided at the station.

25.0 POWER SUPPLY:

- (i) Auto change over CLS Panel is provided in the Station Master's Office with the three power supplies viz., UP AT, DN AT and Local, for auto switching of to the required supply position. A luminous indicator above the circuit breaker for each supply indicates the availability of the supply.
- (ii) Normally the switch will be kept towards UP AT or DN AT position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other AT.
Eg: If power block is to be given on the UP line, DN AT must be available and vice-versa.
- (iii) In case of failure of one of the AT supply without any power block, the on duty SM. has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the Auto change over CLS Panel, one for each supply and their normal position is down and when tripped it goes up.) In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch.

If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any other mean and a message shall be given to the AEE and CTFO/PSI for prompt rectification.

- (iv) For IPS system that provides Un-interrupted power supply to signaling system the selection output of the auto change over CLS panel has been provided.
- (v) There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

REMOTE MONITORING ASM BOX:

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

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

25.0 POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS:

Interlocking installations and the ancillary field units are fed from the following sources of power supply.

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

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

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

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

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

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

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

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

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

26.1 WORKING OF INTEGRATED POWER SUPPLY [IPS, INDICATIONS & ACTION TO BE TAKEN BY SS/SM ON DUTY:

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

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

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

On duty SS/SM in each shift shall check and record the readings, indications, etc. in the station dairy duly initiating rectification of failures of IPS System, if any.

In the event of failure of Remote monitoring ASM console due to any reason when both traction power and local power failed the SM on duty shall inform concerned Electrical staff immediately. In case ' call S&T staff ' or 'system shut down' indication appear on the remote monitoring panel of IPS and/ or mal functioning of the remote monitoring panel SM on duty shall inform the same to concerned S&T staff immediately.

NORMAL POWER SUPPLY TO IBS GOOMTY AT KM 722.120:

Normal power supply to the Signalling and Interlocking installation at the IBS goomty is drawn from the traction power sources (230V-50 HZ, AT1 and AT2) with auto-change over arrangement in IB Goomty through a panel. Whenever any traction power supplies fails, the auto-change over unit will automatically connected to the other available AT supply.

In case of failure of both AT supplies SS/SM should immediately inform to the concerned section controller, Electrical staff and S&T maintenance staff.

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APPENDIX 'C'

STATION WORKING RULES OF TILARU STATION

ANTI COLLISION DEVICE [RAKSHA KAVACH]

NIL

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APPENDIX-'D'**TO STATION WORKING RULES OF TILARU STATION**

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

1. STATION MASTER (IN CHARGE):

- i) He is responsible for trains passing during his shift.
- ii) He is responsible for the general and satisfactory working of the station and for the efficient discharge of duties by staff working under him.
- iii) He shall keep all Rule books, Registers, Files and documents neat and up to date.
- iv) He shall ensure that all equipment, apparatus, and instruments including signaling and interlocking gears and fittings are kept clean and oiled by S&T officials.
- v) His special attention is drawn to Chapter-II of G&SR and GR 5.01 to 5.08 with relevant SRs and O.M. Chapter-2.
- vi) He shall follow the instructions laid down in SR.3.68.01 © and (d) and SR 14.07.01 and B.W.M.2.09 (e).
- vii) He shall promptly attend to accidents and report them.
- viii) He shall supervise the work of safe working staff and conduct night inspections and report lapses of staff working under him.

2. STATION MASTER:

- i) He is responsible for trains passing during his shift.
- ii) He shall promptly bring to the notice of SM incharge all irregularities and accidents in course of his shift duties.
- iii) During the absence of SM I/C, the duties of the Station Master will devolve on him.
- iv) He shall follow SR 3.68.01(c) and (d) SR 14.07.I and OM Chapter-2.
- v) His special attention is drawn to Chapter-2 of G&SR 1976 and GR 5.01 to 5.08 with relevant SRs.
- vi) As an assistant to SM I/C, he shall carry out the instructions given from time to time.

3. TRAFFIC POINTS MAN :

- i. He shall work under the orders SM on duty.
- ii. He shall couple and uncouple vehicles under the supervision of SM.
- iii. He shall watch and guard the packages and other Railway property lying in the Station premises.
- iv. He shall report any irregularities coming to his notice.
- v. He shall do loading and unloading of parcels, smalls and Guard's boxes. He shall do piloting IN and OUT.
- vi. He shall deliver any official message to the proper person/office. He shall carry out any other duties entrusted to him by the SM on duty.
- vii. He shall follow OM Chapter-2.

4. TRAFFIC GATE MAN:

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

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

APPENDIX 'E'**STATION WORKING RULES OF TIU STATION****ESSENTIAL EQUIPMENT**

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

Sl. No	Description	Quantity
i)	Detonators	10
ii)	LED based Tri Colour flashing torch.	3(1 Spare)
iii)	Hand Signal Flags	3(1 Spare)
iv)	Safety chains with Pad locks	6
v)	Clamps with Padlocks	8
vi)	Skids	6
vii)	Wedges	4
viii)	Fire & Sand buckets	6
ix)	Fire Extinguishers	2
x)	Line blocking collars	6
xi)	Motor trolley on line board	2
xii)	Block suspension board	2

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APPENDIX 'F'**TO STATION WORKING RULES OF TIU STATION RULES FOR WORKING
INTERMEDIATE BLOCK SIGNALLING BETWEEN TIU-KBM:**

The block section between TIU-KBM has been split into two block sections by providing Intermediate Block Stop signals at KM 721/23-25 [controlled by KBM station] for UP line and, on DN line at KM 722/20-22 [controlled by TIU Station]. Intermediate Block stop signals are controlled through double line lock and block instruments at the respective receiving ends.

- a] The Block working for section between TIU-KBM on UP and Down lines is controlled by the provision of Double line Lock and Block Instruments (SGE type) and are provided at KBM station and at TIU Station. The UP Advanced starter signal No. S 13 of KBM and DN Advanced Starter signal No.12 of TIU are controlled by the clearance of IB section through respective IB section monitoring axle counters and the IB Home signals are controlled in turn through the line clear position of respective Double line lock and block instruments at the receiving stations.
- b] Trains between intermediate block signal to respective Home signal of Station in advance in both the sides are worked by means of SGE type lock block instrument vide 4.09, 5.07, 14.01 to 14.14 of the G & SR and chapter V of BWM.
- c] Last stop signal to the intermediate block stop signal in both the sides are controlled by Digital Axle counter and are worked under absolute block system in terms of G & SR 14.01, 14.13. Indications on VDU provided at TIU station.

INDICATIONS PROVIDED ON VDU FOR I.B. SECTION

The indications of signals, IB and Block sections in both up and down directions are shown in the following table:

SECTION KBM-TIU (UP DIRECTION)

Sl. No	Signal Aspect [S-13]	IB Section Indication [13 AXT]	IB Home Aspect [S-15]	Block Section Indication	Remarks.
1	Green	White Illuminated	-	-	Advance starter No: 13 is taken off to dispatch

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					a train up to IB Home.
2	Red	Red	-	-	IB Section is occupied.
3	-	-	Green	White illuminated.	IB Home taken off for train up to home of TIU.
4	-	-	Red	Red	Block section is occupied or IB Home passed at danger.

SECTION TIU -KBM. (DN DIRECTION)

Sl No	Signal Aspect [S-12]	IB Section Indication [12 AXT]	IB Home Aspect [S-14]	Block Section Indication	Remarks.
1	Green.	White Illuminated.	-	-	Advance starter No: 12 is taken off to dispatch a train up to IB Home.
2	Red.	Red.	-	-	IB section occupied.
3	-	-	Green	White illuminated.	IB Home taken off for train up to home of KBM.
4	-	-	Red	Red	Block section is occupied or IB Home passed at danger.

d] Buzzer/Bell

One audio buzzer is provided in the SM room at TIU to detect Train Entering section for outgoing trains. After train passes the intermediate

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block stop signal, the buzzer/bell will start ringing TIU station. On hearing the buzzer/bell the SS/SM must acknowledge the same by clicking on train entering section [TES] muting button to stop the buzzer/bell and then send train entering section report to the station master of the station in advance who shall turn commutator of the Double Line Lock and Block Instrument from the Line Clear position to 'Train On Line position' and acknowledge train entering section following the procedures laid down vide Block Working Manual.

- e] In the event of failure of I.B. track circuit [i.e. track clear indication not available] which shall not permit taking 'OFF' last stop signal, it should be ensured by SS/SM on duty at the dispatching station through exchange of private number with the SS/SM of the receiving station that the last train that passed the last stop signal of his station has fully arrived at receiving station, before allowing the next train to enter in to the section, such permission to the next train shall be granted and the section TIU-KBM shall be shall be treated as single section.
- f] By issuing the pilot memo when normalization of the system is not possible. In such case, line clear has to be taken on lock and block instrument. Trains are to be dispatched from the station only after obtaining line clear till such time track circuit are last stop signal is restored to normal.
- g] NORMALIZATION OF THE TRACK CIRCUIT AND OF BLOCK WORKING BY RESETTING FEATURE:
 - i] No train should be allowed to leave station in any particular direction unless I.B. track clear indication is available for the relevant track circuited portion of I.B. section and last stop signal cannot be taken off and provision stipulated in Para g.III to be followed.
 - ii] A Resetting arrangement for the resumption of I.B. Axle counter under failure condition through co-operative features of both the SS/SM on duty at either end station of the Block section is provided, which should only be resorted to after the train that was lastly sent arrives fully at the receiving station and is certified in this respect by the Dy. SS/SM at the receiving station through exchange of private number.
 - iii] For monitoring of I.B. section working & re-setting of I.B. Axle counters, Track Indications and Re-setting arrangements are provided with button icons on the VDU at KBM & TIU station. Digital Veedor Counters are also provided for the purpose of recording the re-settings for the I.B. Axle Counters in case of failures in IB section.

iv] The SS/SM on duty at KBM station shall maintain a separate register for use of resetting at IB Axle Counters wherein every operation of the resetting shall be recorded giving details of date of use, train, number, time, number registered in the counter on VDU and reasons for resetting and initial each such entry.

v) The procedure for resetting of the I.B. Axle counters in terms of clause g (ii) above shall be as follows:

SECTION KBM-TIU ON UP LINE:

	DISPATCHING STATION [KBM]		RECEIVING STATION [TIU]
1	SS/SM on duty shall call the attention of SS/SM of TIU station through Telephone for re-setting I.B. Axle counter zone giving details of last train left the station into the section.	1	SS/SM on duty at TIU after verifying that the said dispatched train arrives completely, shall exchange private number with SS/SM on duty at KBM and gives permission to re-set by clicking on 'Permission Granting' button provided on the VDU.
2	On getting re-set permission on VDU SS/SM on duty shall acknowledge by clicking on 'Permission received from TIU' acknowledgement button icon. For each such operation the reset counter provided in VDU shall increase by one digit. SS/SM on duty shall make an entry of changed Reset counter number in re-setting register.	2	SS/SM on duty at TIU shall continue to press the 'Permission Granting' button.
3	SS/SM on duty then shall re-set the I.B. Axle counter by clicking on 'DN Re-set Key' and select 'Key In'. After which he shall click on the 'Re-set button' icon, which will reset the Axle Counter.	3	SS/SM TIU shall also click 'Re-set' button provided on VDU at TIU station simultaneously at the same time for re-setting of I.B. Axle counter.
4	On completion of re-setting process I.B. section clear indication will appear on VDU.	4	The SS/SM on duty at TIU shall record in his train register the re-setting operation giving train number, time and private number exchanged with the SS/SM of KBM station giving reasons for the re-setting operation.

SECTION TIU-KBM ON DN INE:

	DISPATCHING STATION [TIU]		RECEIVING STATION [KBM]
1	SS/SM on duty shall call the attention of SS/Dy. SS of KBM station through Telephone for re-setting I.B. Axle counter zone giving details of last train left the station into the section.	1	SS/SM on duty at KBM after verifying that the said dispatched train arrives fully, shall exchange private number with SS/Dy. SS on duty at TIU and gives permission to re-set by clicking the 'Permission Grant' push button [To TIU] provided on the VDU.
2	On getting re-set permission on VDU SS/SM on duty shall acknowledge by pressing 'Permission received from KBM' acknowledgement button. For each such operation the reset counter provided in VDU shall increase by one digit. SS/SM on duty shall make an entry of changed Reset counter number in re-setting register.	2	SS/SM on duty at KBM shall continue to click the 'Permission Granting' button'.
3	SS/SM on duty then shall re-set the I.B. Axle counter by clicking on 'DN Re-set Key' and select 'Key In'. After which he shall click on the 'Re-set button' icon, which will reset the Axle Counter.	3	SS/SM KBM shall also click 'Re-set' button provided on VDU at KBM station simultaneously at the same time for re-setting of I.B. Axle counter.
4	On completion of re-setting process I.B. section clear indication will appear on VDU	4	The SS/SM on duty at KBM shall record in his train register the re-setting operation giving train number, time and private number exchanged with the SS/SM of TIU station giving reasons for the re-setting operation.

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h] DISPATCH OF TRAINS:

Dispatch of trains is governed by the provision of G & SR 3.42, 3.70 and Block working manual rules.

i] From KBM towards TIU

Train will be dispatched in accordance with the General Rules 3.42, 3.70., 3.75, 4.35 and 8.01 and subsidiary Rules thereto.

j] KBM TO IBS ON UP AND DOWN LINES:

The SS/SM on duty shall ensure that the portion of line between Advanced Starter and 400 Mtrs beyond IBS at their respective ends is clear of obstruction and indication to this effect is available in the VDU and shall also ensure any non-isolated shunting at their respective ends suspended and shunting authority issued if any is withdrawn and kept in his custody.

Advise the Station Master at the station in advance, of the train No. and description of such intended train to be dispatched and shall take his assent supported by Private Number and shall then set and lock the route and take off the Starter and Advanced Starter.

k] IBS SIGNAL TO THE STATION IN ADVANCE:

The SS/SM on duty shall obtain line clear over lock & Block instruments from the station in advance to dispatch a train to pass the IBS signal, at the respective end shall take off the IBS signal by means of taking of signal No.15 of KBM.

After the train passes the intermediate Block Stop signal of KBM a buzzer will ring in the VDU. On hearing the buzzer/bell the SS/SM must acknowledge the same by clicking train entering section [TES] muting button to stop the buzzer/bell and then send train entering section report to the Station Master of the station in advance who in turn will turn commutator of the Double line Lock and Block Instrument from the line clear position to Train On Line position and acknowledge train entering section. After dispatch of a train from KBM into the Block section between KBM and intermediate Block Post in case when the intermediate stop signal is not taken 'off' but the buzzer has started ringing, this may be either due to the train passing intermediate Block stop signal at 'ON' position or due to failure of the track circuit in advance of that intermediate Block Signal and shall exchange Private Number with the SS/SM in advance station indicating the occurrence and the number

of the train. On getting the information from the SS/SM supported by Private Number, the SS/SM on duty at KBM in turn will inform SCR on duty about this.

The procedure must be rigidly followed irrespective of the fact whether line clear for train has been received from station in advance or not and this must be recorded in the Train Register and SS/SM's diary book of both the Stations/Cabins.

- l] (i) Dispatch of trains towards TIU in case of failure of the Down Advanced Starter signal at KBM Station due to failure of "Axle Counter" device or otherwise. If the failure of the Advanced starter of KBM is due to the failure of axle counting device or the indication lamp (repeated by indication lamp) showing 'Red' light or either due to power failure or due to any other causes, the re-setting is provided with counter in VDU for resorting the normal function of the signal, should be operated accordingly to the following instruction whenever the Advance starter signal of KBM is found defective by the Station Master and the following procedure shall be adopted.

On receipt of this information, the SS/SM on duty after ensuring that all trains which had left his Block Station had arrived complete and intact at **Tilaru** station (by exchange Private Number with the SS/SM **KBM** confirming this), shall click on the resetting button of the axle counter. When the resetting is successful, it shall be indicated by a green light in the resetting panel provided in the SS/SM's office at **KBM**. The use of this resetting is registered on the counter and the SS/SM should record this giving the details of the occasion with timings in the counter register kept in the station.

If it is not possible to restore normal working of the counter by use of the resetting procedure, the ESM-in-charge of the section shall be served with a written memo to attend the defective signal and rectify the same. The ESM-in-charge of the section on being served with a memo by the SS/SM shall attend the failure and rectify the fault. The ESM after ensuring that all S&T gears relating to defective signal have been attended to and are in working order except the axle counter which needs re-setting shall establish communication with SS/SM concerned and ask him to reset the axle counter by pressing the reset push button. Where after the SS/SM on duty, after ensuring that all the trains which had left his Block Station had arrived complete and intact at **TIU** (by exchanging of P.N with SS/SM/TIU confirming this) shall press the resetting button provided in the VDU at **KBM** station and resume the normal working.

m] DESPATCH OF TRAINS IN CASE OF FAILURE OF INTERMEDIATE BLOCK STOP SIGNAL:

[i] When a Loco Pilot finds an intermediate Block Stop signal at 'ON' Position he shall stop his train in rear of the signal and advise the guard of the fact by sounding long continuous whistle and shall then contact the Station Master of the Block Station in rear over the signal post telephone provided for the purpose vide SR.3.75.01[i].

[ii] If the SS/SM of KBM station, on being contacted over Telephone by the Loco pilot, finds that the signal is defective, he shall, after obtaining "Line Clear" for the train from the station in advance, authorize the Loco Pilot on the telephone to pass intermediate Block Signal at "ON" and enter the block section ahead. He shall give Loco Pilot the Private Number and identification Number under which he has received "Line Clear" for the train from the station in advance.

The Loco pilot shall then sound one short, one long and one short whistle and, on receipt of Guard's signal shall proceed ahead duly exchanging signals with him.

The station Master on being contacted by the Loco Pilot on signal post telephone if he is unable to obtain "Line Clear" for the train due to total interruption of communications, shall call for the Guard's through the Loco Pilot and on being contacted by guard, he shall advise the guard of the circumstances and give a Private Number for the train to proceed up to the next block station. The guard shall prepare a memo in duplicate authorizing the Loco Pilot to proceed with the Private Number received from the Station Master. In such case the speed of the train shall be restricted as prescribed in GR 3.75(3).

[iii] In such case the Loco Pilot shall pass the IB signal at "ON" and proceed cautiously and be prepared to stop short of any obstruction, at a speed not exceeding 15 Kilometers an hour if he has a good view of the line ahead, otherwise at a speed not exceeding 8 kilometers an hour and report the failure to the Station Master at the block station ahead.

While complying with the instructions contained in GR 3.75(3), when the Loco Pilot has to pass IB signal at "ON" after waiting for 5 minute at the signal, he shall proceed cautiously preparing to stop short of any obstruction at a speed not exceeding 15KMPH when view ahead is clear and 8 KMPH when view ahead is not clear due to curve, obstruction, rain, fog or any other cause until he reaches the foot of the next stop signal and even the signal is "OFF" the Loco Pilot shall continue to look out for possible obstruction short of the same and will act upon its indication only after he has reached it. Before starting, the Loco Pilot shall

sound one long whistle which may be repeated as necessary and shall then start his train on receipt of Guard's signal. Thereafter he shall exchange signals with the Guard.

On reaching the block station ahead the Loco Pilot shall report the failure of the signal to the Station Master. If, the telephone is provided at the intermediate Block Stop signal Post is out of order the Loco Pilot will pass the IB signal as per GR 3.75(3) & SR 3.75.02, and on reaching the block station ahead, the Loco Pilot shall report the failure of the signal to the SS/SM, Following train shall not be allowed to leave **KBM** unless the complete arrival of the receiving train is certified by the SM on duty at **TIU** under exchange of Private Numbers.

The station Master of the block station working the intermediate block stop signal on becoming aware that such a signal is defective shall, before dispatching the train, treat the entire section up to the block station immediately ahead of the intermediate block post as one block section and issue a written authority to the Loco Pilot to pass the defective intermediate Block Stop Signal at "ON" without stopping at the signal. In accordance with the procedure prescribed by special instruction.

A written authority as mentioned in GR 3.75(4) shall be in Form T/369[3b] in which the Private Number and identification Number obtained from the station in advance in support of the "Line Clear" shall be recorded. Display of "Proceed hand signal at the foot of defective Intermediate Block Stop Signal may be dispensed with.

- [iv] However, if the SS/SM on the Block station immediately in rear of an intermediate Block Signal is aware that UP/DN intermediate Block Signal is defective shall before Dispatching a train shall verify that all trains which had left his Block Station had arrived complete and intact at **TIU** station (by exchanging Private Number with SM- **TIU**) shall press the resetting button of Axle counter equipment. Thereafter Loco pilot shall be handed over the authority of T-369[3b] to pass IBS Signal at "ON" position where in, the Private Number and indication number obtained for line clear, shall also be written. The use of this re-setting push button is registered on the counter and SS/SM should record this usage giving details of the occasion with timings in the Counter/register and also train registers.

[n] **INDICATION CUM RESETTING PROVISION IN THE VDU AT TIU:**

The VDU Provided for following light indications:

- a) Two green indications for the track- circuited portion by Axle Counter, which remain normally lit to indicate that the track is clear. These lamps extinguish no sooner the train passes the last stop signal and their place two red indications are lit to indicate that the track is occupied.
- b) Two red indications for the last stop signal replacement track circuit which remain lit so long this track- circuit is occupied or in under failure condition.

- c) Two red indication ahead of the IBS Signal, which are lit if the train passes the side signal in "ON" Position. These indications continue to glow till such time the lock and block working is resumed through emergence re-setting feature.
- d) Two red indications just ahead of IBS Signal for the IBS signals replacement track circuit. These indications normally remain dark and are lit either during occupation by a train or during failure of this track circuit.
- e) Two red indications for the block section for receiving trains. These indications shall normally remain no indications and shall be lit only when the incoming train passes the IBS signal. It remains lit till such time train arrives fully and Block Instrument is normalized.
- o] RE SETTING PROVISION IN THE VDU AT TIU STATION:
For resetting of I.B. Axle counter please refer Para No: 5.2 of Appendix 'B' of this SWR
- p] SPECIAL INSTRUCTION IN CASE OF A TRAIN PASSING IBH AT 'ON' POSITION:
 - I] In case train run away indication appears the SS/SM receiving Station shall not turn the block instrument handle to line clear position and Cabin Master/SS/SM at sending station shall not take any action to dispatch the third train unless the second train which passed the IB signal in the 'ON' position has actually arrived and its complete arrival is verified by the receiving station.
 - II] Every case of a train passing IB signal at 'ON' position without strictly following the provision of GR 3.75 should be treated as a breach of block rule by the Loco pilot and action to be taken accordingly.
 - III] When train run away indication appears at the Dispatching Station without any train in the section, the IBS system should be treated as failed and Signal Maintainer should be advised. All the subsequent trains shall be Piloted OUT after duly taking line clear treating entire section as one Block section as per GR 3.75(4).
 - IV] Whenever a train after having obtained line clear passes IBS (when not taken off) in "ON" position the train run away indication appears at the Dispatching cabin and train entering section indication appears at the receiving cabin, under such circumstances no further train shall be allowed in the section till the said train arrives completely at the receiving station i.e., station in advance, and its complete arrival received at the receiving station i.e. station in rear supported by Private Number treating the entire block section as single section.
 - V] If any train passes IB Signal at 'ON' position when there is a train in the Section between IBS and the station ahead, the train run away indication will appear at both receiving and Dispatching station/cabin. Under such circumstances the SS/SM in the receiving station shall not turn the Block instrument to Line Clear position and SS/SM at sending station shall not take action to dispatch the (3rd) train, unless the 2nd train which passes

the IBS in the 'ON' position has actually arrived and its complete arrival is verified by the receiving station.

- VI] Permission to be granted for the runaway train by clicking permission on VDU only after verifying that the last vehicle of the runaway train has arrived intact and ensured by exchange of private number with the SS/SM of the sending station. In case of failure of Axle Counter equipment at the sending station, permission button may also be pressed for normalizing the system only after verifying that there is no train in the section and after duly exchanging Private number with the SS/SM of the sending station.
- VII] Whenever a train run away indication appears when there is a train in the section, no further train should be allowed in the section till resetting is done as per item No.30.3 above.
- VIII] Before any re-setting operation is done, the Dispatching station should advise the receiving station giving details of the last train that has entered the section and should ensure by exchanging of private number that the last train has arrived complete at receiving station.
Every Case of re-setting shall be entered in a register in the following proforma.

Date and time	Train No. Last entered the block section	Private No. of station ahead for Complete Arrival of the train Under Col.2	Counter No Before resetting operation completed	Train No. Entering Block section Immediately after the resetting operation	Remarks	Signature of Dy. SS/SM
1	2	3	4	5	6	7

- IX] If resetting is not possible under item as mentioned above, the system should be treated as failed and train will work treating the entire section up to the Block Station immediately ahead of the IBS Post as one block section as per GR 3.75(4).
- X] Action to be taken when a train passes Intermediate Block Stop Signal at 'ON'
- a) By SS/SM of Block Station in advance of the Intermediate Block Stop signal
- I] Shall not turn the Block Instrument commutator to "Line Closed" Position Unless the complete arrival of the train which passed IBS at "ON" position is ensured, without any exception even for such a train which leaves the rear station after obtaining line clear and passes IBS at "ON" position, since there is a chance of leaving a vehicle or vehicles in the Axle

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Counter area where the function of Axle Counter also fail when IBS is passed at "ON" position.

- II] In case the bottom needle of the SGE type block instrument is in its 'Line closed' position action should be taken to turn the block instrument comutator to 'TOL' Position vide BWM 5.16(2)(iv) and must not turn to "Line closed" and then to "Line clear" position unless the train which had passed the "Intermediate Block Stop Signal" in the 'ON' position arrives complete and its complete arrival is verified.
 - b] By the Dy.SS/SM of Block Station in rear of the intermediate Block Stop Signal must ensure that last stop signal controlling entry of trains into the section between the last stop signal and the intermediate Block Stop Signal is in its 'ON' position and shall under no circumstances take 'OFF' or attempt to take 'OFF' the said last Stop signal even if the Axle counter/Track circuit section from his block station up to and including the adequate distance beyond the Intermediate Block Stop signal shows 'clear' unless the train which had passed the intermediate Block Stop signal in the 'ON' position arrives complete the block station in advance and its complete arrival is verified, and intimate the SS/SM of the block station in advance the number, description and the departure time of the last train Dispatched from his block station under exchange of Private number.
 - c] By the SS/SM of both the block stations in rear and in advance of the intermediate Block Stop Signal.
 - i] After the complete arrival of the last train, according to the information received vide sub-para (b) above, the SS/SM of the block station in advance shall communicate the same to the SS/SM of the station in rear supported by a Private Number which shall be acknowledged by the later by issuing Private Number. Thereafter the SS/SM of the dispatching station and the SS/SM of the receiving station shall operate the 'Resetting procedure respectively in conjunction. This simultaneous operation will cause to clear the run away at the departure end of the station then the Station Master shall acknowledge which in turn will record the next higher number in the counter of the VDU.
 - ii] The SS/SM of the Block Station in advance shall then take steps or authorized SS/SM of the receiving end station supported by a Private Number to normalize the block instrument.
 - iii] Record of Private Number exchange and the number shown in the counters shall be maintained by the concerning SS/SM in the train signal (Cum log) Register/Train Log Register.
- It is to be noted that in terms of GR3.75 whenever intermediate block stop; signal is at 'on' a Loco pilot must stop his train in rear of the signal

and contact the SS/SM of the block Station in rear on the telephone provided on the signal post who will authorize him to pass the signal in 'ON' position supported by Private Number and identification number which were taken for the line clear from the station in advance. If the telephone is not provided or is out of order, the Loco pilot, after waiting for 5 minutes shall pass it at "ON" but he must report the failure to the SS/SM at the Block Station ahead after following the provision in GR.3.75(3). This would mean that the Loco pilot shall either get an authority on telephone from the station master or must report at the station ahead about the failure of the telephone. If none of those provisions are complied with, it should be taken as breach of Block Rules.

q] In the event of failure of IBS signal in the "OFF" position or cannot resume to "ON" position immediately after it has been passed by a train, the station master controlling the signal shall take steps to put back the IBS signal to "ON" position and treat IBS signal failed and train shall be dispatched treating entire section between his station and station in advance as one Block section.

r] RUNNING OF MOTOR TROLLYS ON IBS ZONE:

i) While allowing motor trolley/4 wheeler tower wagon/material trolley etc., entire section between **KBM-TIU** shall be treated as one block section and shall be issued **T-369 [3B]** for passing IBS at "ON" position.

ii) After the complete arrival of the said Motor Trolley/4 wheeler tower wagon/material trolley etc., at the station ahead, Station Master at adjacent station shall exchange Private Number in token of complete arrival and then shall resume normal working by resetting the Axle Counter as stated in the SWR.

iii) Motor Trolleys shall not be allowed on following line clear.

NOTE:-

Backing of train on the portion of line after passing the intermediate Block Stop signal normally shall not be allowed, however, if it becomes inevitable to back, such backing may be done with great caution as mentioned in SR 3.75.04.

SIGNAL POST TELEPHONE:

A telephone socket (RE Type portable telephone kept with Loco pilots) with a RED Press button at the bottom is provided at the foot of each IB signal and is meant for Loco pilot to contact the SS/SM in rear by pressing the RED button. The Loco pilot of the train encountering the IB signal at 'ON' position shall contact the station in rear to find out the occupancy or otherwise of the block section ahead.

NORMAL POWER SUPPLY TO IBS GOOMTY AT KM 722.120:

Normal power supply to the Signalling and Interlocking installation at the IBS goomty is drawn from the traction power sources (230V-50 HZ, AT1 and AT2) with auto-change over arrangement in IB Goomty through a panel. Whenever any traction power supplies fails, the auto-change over unit will automatically connected to the other available AT supply.

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APPENDIX- 'G'
TO
SWR
OF
TILARU STATION

STATION WORKING RULES FOR 25 KV A.C ELECTRIC TRACTIONTILARU STATION YARD**1. GENERAL & SUBSIDIARY RULES :**

- i) The rules applicable to Electrified Section have been given in Chapter XVII of the General Rules and in the Subsidiary rules made hereunder for Electric traction. The General principles governing operation and maintenance of Traction Overhead Equipment, Electric Locomotives, Signal & Telecommunications installations have been given in the A.C. Traction Manual. These rules books and an extract of the relevant paras of A.C. Traction Manual, shall be kept in each station and yard office and all the staff dealing with safe working shall make themselves thoroughly familiar with the same (GR 17.01).
- ii) Brief reference to important rules required to be followed by Station / Yard staff in their day to day work has been given in this Appendix. These are, however, illustrative and not exhaustive.

2. GENERAL SAFETY PRECAUTIONS :

- i) All staff are warned that contact with or very near (within 2 meters, unless protected by a screen as per rules) to live portion of the 25 KV Traction Overhead Equipment is dangerous and shall be strictly avoided.
- ii) No work on overhead lines or in the zones within two meters, of any live equipment shall be carried out unless a regular 'permit to work' is obtained from the authorized Traction staff and line is made dead and earthed as per rules (GR 17.04) ACTM 20600 to 20619 Vol.II Pt.I.

3. SECTIONING DIAGRAM(Station Working Rules Diagram for Electric Traction)

- i) A Diagram No. TRD/WAT/SWR/233/12 indicating schematically the lines which have been equipped with for Electric traction is exhibited. The diagram also indicates different electrical stations (Sectors, Sub-Sectors or Elementary sections) the Controlling Switches (Isolator Switches or Interrupters) Insulated Over laps and Section Insulators where the over head equipment is electrically separated. The limits of an Electrical section (Sub-Sector or Elementary Section) and are indicated by relevant section. A copy of this diagram is also enclosed with these special working rules and will form part of the same.
- ii) For all purposes connected with train movements and power blocks, this diagram is the only authorized document to be referred to. The normal position of various switches is indicated on the diagram.

4. UNWIRED TRACKS : No electric locomotive with pantograph raised shall under any circumstances be taken to an un wired section.**5. OPERATION OF SWITCHES :**

- i) All switching operations shall be carried out in accordance with the instructions of the Traction Power Controller except in respect of Switching operations for local blocks, which may be carried out by authorized traction staff, after they have been granted local block by the Station Master or Assistant Station Master accordance with SR 17.04.09 and ACTM 20600,20601, Vol.II Pt.I.
- ii) "In case of emergency, Authorised and trained station staff may open Isolator switches under specific instructions of the Traction Power Controller (GR.17.04.14-B) with exchanging of Private Nos. to perform the operations of the following isolator switches as well as any other isolators within the station limits".

Sl. No.	Isolator No.	Loc. No.	Sl. No.	Isolator No.	Loc. No.
1	SM 138	728/27	2	SM-139	728/12

6. POSITION OF SWITCH HANDLES :

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

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

8. PROCEDURE AND PRECAUTIONS FOR OPERATING ISOLATORS :

The procedure for Operation of Isolator Switches have been given in and GR 17.04.15 and SR 17.04.14 (b) which must be rigidly observed.

Isolator switches may be opened only after ensuring : -

- A) If the Isolator switch is on the main line that the adjacent interrupters on either end of Isolators switch have been opened.
- B) If the Isolator switch is controlling supply to yard lines, that either the Elementary Section controlled by the Isolator switch is free of raised pantographs of Electric Locomotives, on the Interrupters controlling the supply to the yard lines in question are open (GR.17.04.15).

9. POWER BLOCKS :

- i) The detailed procedure for obtaining Power Block has been given in (GR.17.04.02, 17.04.03 & 17.04.04) ACTM 20603, 20604, 20611, 20612 & 20613 which must be rigidly followed except in case of emergency.
- ii) The sequence of switching operations for granting and canceling the Power block for particular section, are included in the Annexure. These shall be strictly followed by all staff. Failure to follow the sequence indicated, is likely to lead to dangerous consequences. When any isolator switch is changed from its normal position, for staff to work in over head equipment, a danger board shall be exhibited on the switch with the caption "DANGER MEN WORKING". An adequate number of such Danger Boards have been provided at each stations.

10. PROTECTION AT THE TIME OF POWER BLOCK :

- i) All sections over which a power block has been granted shall be protected against the entry of Electric Locomotives with pantograph raised from either end during the period (GR 17.04) and ACTM 20620, 20621 to 20627 Vol.II Pt.I strict enforcement of longitudinal and transverse, protection as per the Annexure attached shall be ensured before imposing power block. If there is / are locomotive on the section over which the power block to be given, the Loco Pilot of such, locomotives shall be given a memo by the Station Master on duty or authorised Traction staff to lower the pantograph and not to raise it until further instructions and an acknowledgement shall be obtained. The Loco Pilots shall not be given instructions to raise the pantograph still the power block is cancelled.
- ii) Station master or station staff conducting shunting operation with electric locomotive will ensure that under no circumstances any electric locomotive approaches near the traction structure limiting electrical sections power with the power block may be granted. Limits of each electrical section at a station are shown in the station sectioning diagram.

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

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

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

14. MOVEMENT OF OTHER THAN ELECTRIC TRAINS

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

- (a) This has not been prohibited specifically in the power block message.
- (b) Other than Electric trains hauled by such engines shall be brought to a stand at the station preceding the station/section at which power block is granted and the Station Master or this station shall satisfy himself by personal inspection that there is no electric locomotive in the train.
- (c) He shall also give a Caution Order to the Loco Pilot of such engine or train, warning him of the power block ahead and instructing him to watch for hand signals and observe them.
- (d) No Station Master shall give line clear or lower signals for a train to run over a section under power block unless he has received an assurance (supported by Private Number) from the Station Master of the preceding station that there is no electric locomotive or Inspection Car with pantograph raised in the train. (ACTM 20627 Vol.II Pt.I.)

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

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

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

17. WORK ON ROOF OF ROLLING STOCK :

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

18. BLOCK INSTRUMENTS OR ANY OTHER ELECTRICAL SIG.EQUIPMENT:

The Station Master or cabin man on duty must always watch for any unusual working in the Block Instrument or any other Signaling equipment which may arise due to voltage induced from the Traction system. The block instrument or the signaling equipment must be suspended whenever there is any signs of unusual working and the nearest Signal & Telecon Maintenance Inspector contacted to inspect and certify the same. In the event of break of catenary, the Station Master must immediately check up whether all block and Morse signaling equipment are working normal before permitting any train movement (ACTM 10430 Vol II)

19. TELECOMMUNICATION CIRCUITS :

The details of the Telecommunication facilities available on the electrified sections and the use of the same have been given to ACTM 10213, 10429 Voll, 20703 Vol .II Pt.I

20. ELECTRIC SHOCK :

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

21. FIRE : Regarding Fire on or adjacent to any Electrical equipment refer GR 6.10 & SR there to

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

23. AMENDMENTS FOR SUPPLEMENTARY CORRECTION SLIPS :

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

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

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

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

A) FOR ALL STAFF :

(a) DO(s) :

1. In case of fire on Electric Traction equipment or wires
 - i) Inform Traction Power Controller.
 - ii) Extinguish Fire by Special extinguishers if available.
 - iii) Ensure no water jet is used under any circumstances.
2. Anything unusual on Traction wires or electric locomotives inform Traction Power Controller of nearest Station Master.
3. In any emergency speak to Traction Power Controller on emergency Telephone system (Sockets for connecting emergency Telephone) are provided at interval of approximately every Kilometer and defection to nearest socket is indicated on OHE Mast.

(b) DON'T(s) :

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

B. FOR RUNNING STAFF :

(A) DO(s)

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

(B) DON'T (s) :

1. Do not lift or raise your tools towards traction wires, (keep the tools in their respective position immediately after use).
2. Do not load coal on the engine tender to a height more than 4 mtrs. above rail level.
3. Do not take electric locomotive with raised pantograph to any unwired line, power block working limit or near the section insulators at the end of section under power block.
4. Do not climb on the locomotive (of any type) on the engine tender for any purpose, while under traction wire unless power is cut-off and permit to work obtained (for watering, use the water column from the ground with the special device provided for this purpose and open tank over by the special devial device provided).
5. Do not place a steam locomotive with chimney directly opposite a traction mast or under any insulator or under bridge.
6. Do not allow long articles like fixing rod, shovel or any other thing to protrude above the engine while on electrified tracks.
7. Do not direct any jet or spray towards the traction wires (Jets of water, if necessary may be used horizontally of size the safety zone of 2 Mtrs (7 feet).

C) FOR STATION MASTER :

(A) DO (s) :

1. Ensure all staff are conversant with safety precautions.
2. Report defects in traction wires or any electric locomotives of Electric Multiple Unit promptly to the traction power controller.
3. Keep sufficient number of button collars and ensure safety understand their use.
4. Ensure fitting of button collars to the points and signal buttons which give access to selection under power block.
5. Observe procedure given in Station Working Rules for 25 KV A.C. Electric Traction while operating Isolator switches.
6. Ensure safe custody of isolator switch keys.
7. Ensure that traction power staff protect sections from all directions by banner flag during power block
8. Suspend working of block and signals if single of unusual working are noticed always check block instruments and signaling equipment seen by breakdown in traction wires occurs.

(B) DON'T (s) :

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

NOTE : This Appendix-G supersedes the previous appendix-G.

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Station Working rules for 25kv A.C. Electric traction for “TILARU” station.

These rules shall be read with the main working rules and appendices.

These rules apply only to ELECTRIC trains or ELECTRIC engines, considered as such and indicated the protection required to prevent them from entering a sector, sub-sector OR an elementary section, over which a POWER BLOCK exist.

Sl. No.	Description of Electrified section	Steps/Precautions to be taken		Sequence of switching operations	
		Longitudinal Protection	Transverse Protection	For granting Power block.	For restoring Power block.
1.	2.	3.	4.	5.	6.
1.	A.SECTOR 1) Sector between Naupda/FS to Urlam/ SP on UP & DN lines. (E/S11802,11804,11602, 11604,11402,&11404 and1901,11903,11701,1 1703,11301 &11303)	1) Movement of Electric trains / locos shall not be permitted into section Tilaru-Urlam and Tilaru-*Kotabommali on UP & DN lines. 2) Necessary UP & DN Despatch & Reception signals shall be kept at 'ON'	NIL	1) Ensure No Electric loco is stabling with its panto raised position in the section 2) Ensure BM Nos 109 & 110 are in open position at Urlam/SP 3) Open BM-118 & 119 at Naupada/FS.	1) Close BM-118 & 119 at Naupada/FS.
2.	B.SUB-SECTORS 1) DN Sub-Sector on DN line between Tilaru-SSP to Urlam-SP (ES No. 11402 & 11404)	1) Movement of Electric trains / locos shall not be permitted into section Tilaru-Urlam DN line. 2) Line clear shall not be granted to Urlam for trains on DN line 3) Necessary DN Reception signals shall be kept at 'ON'	NIL	1) Ensure No Electric loco is stabling with its panto raised position in the section 2) Ensure BM Nos 109 & 110 are in open position at Urlam/SP 3) Open BM-112 & 114 at Tilaru-SSP	1) Close BM-112 & 114 at Tilaru-SSP.

1.	2.	3.	4.	5.	6.
3.	2) DN SUB-SECTOR On DN line between Tilaru-SSP to Kotabommali-SSP (ES NO. 11602 & 11604)	1) Movement of Electric trains/locos shall not be permitted into Tilaru yard on common loop & DN Main and between Tilaru - Kotabommali Section on DN line. 2) UP trains shall not be received on common loop or despatched from common loop. 3) Line clear shall not be obtained from Kotabommali for trains on DN line 4) Necessary DN reception and DN despatch signals and UP reception/despatch signals for common loop shall be kept at "ON".	1) Point No.21A&B and 22A&B shall be kept in normal position.	1) Ensure that no electric loco is stabling with its panto-raised position in the said section. 2) Open BM-115 & 116 at Kotabommali-SSP 3) Open BM-114 at Tilaru-SSP.	1) Close BM-115 & 116 at Kotabommali-SSP. 2) Close BM-114 at Tilaru-SSP.
4.	3) UP SUB-SECTOR Between Tilaru-SSP to Kotabommali-SSP on UP line (ES No. 11701 & 11703)	1) Movement of Electric trains/locos shall not be permitted into Tilaru yard on UP loop & UP Main and between Tilaru - Kotabommali Section on UP line. 2) Line clear shall not be granted to Kotabommali for trains on UP line 3) UP trains shall not be despatched from UP main & UP loop. 4) Necessary UP reception and UP despatch signals shall be kept at "ON".	1) Point No.21A&B and 22A&B shall be kept in normal position.	1) Ensure that no electric loco is stabling with its panto raised position. 2) Open BM-115 & 117 at Kotabommali-SSP. 3) Open BM-113 at Tilaru-SSP.	1) Close BM-115 & 117 at Kotabommali-SSP. 2) Close BM-113 at Tilaru-SSP.

1.	2.	3.	4.	5.	6.
5	4) UP SUB-SECTOR Between Tilaru-SSP to Urlam,SP (ES No. 11301 & 11303)	1) Movement of Electric trains/locos shall not be permitted into section Tilaru – Urlam & on UP line. 2) UP trains shall not be despatched from UP main, UP loop & Common Loop. 3) Line clear shall not be obtained from Urlam for trains on UP line. 4) UP trains shall not be admitted on UP main Line directly. 5) UP despatch signals of UP Main, UP loop & Common loop shall be kept at “ON”.	1) Point No.22A & B shall be kept in normal position.	1) Ensure that no electric loco is stabling with its panto-raised position in the section. 2) Ensure BM-109 is in open position at Urlam-SP. 3) Open BM-111 at Urlam-SP. 4) Open BM-112 & BM-113 at Tilaru-SSP.	1) Close BM-111 at Urlam-SP. 2) Close BM-112 & BM-113 at Tilaru-SSP.
6	<u>C.Elementary Sections</u> 1) DN E/S 11402 between Tilaru-SSP to SM-137 at location No.738/8 of Urlam yard section.	1) Line clear shall not be granted to Urlam for trains on DN line. 2) There shall not be any shunt movement on DN line at South end of the yard. 3) Necessary Reception & shunt signals shall be kept at ‘ON’.	NIL	1) Ensure BM-110 is in open position at Urlam-SP 2) Open BM-114 & 112 at Tilaru-SSP. 3)Open BM-111 at Urlam-SP 4) Open SM-137 at location No.738/8 of Urlam yard on DN line. 5) Close BM-111 at Urlam-SP	1) Close BM-114 & 112 at Tilaru-SSP. 2) Close SM-137 at location No.738/8 of Urlam yard.
7	2) DN E/S. 11604 between Tilaru-SSP to SM/139 at location No.728/12 of Tilaru yard on Common Loop & DN Main line.	1) DN trains shall not be admitted/ despatched to/from DN main & common loop of Tilaru yard. 2) UP trains shall not be admitted/ despatched to/from Common Loop. 3) Line clear shall not be obtained from Kotabommali for trains on DN line. 4) DN reception & despatch signals shall be kept at “ON”. 5) UP reception & UP despatch signals for common loop shall be kept at “ON”.	1) Point No.21A& B and 22A&B shall be kept in normal position.	1) Open BM-114 at Tilaru-SSP. 4) Open BM-115&BM-116 at Kotabommali-SSP 5) Open SM-139 at Loc. No. 728/12 on DN Main Line. 6) Close BM-115&BM-116 at Kotabommali-SSP	1) Close SM-139 at Loc. No.728/12 on DN Main Line. 2) Close BM-114 at Tilaru-SSP.

1.	2.	3.	4.	5.	6.
8	3) DN E/S No. 11602 between SM/139 at location No.728/12 of Tilaru yard to Kotabommali-SSP	1) Line clear shall not be obtained from Kotabommali for trains on DN line 2) DN trains shall not be despatched from Tilaru yard on DN line. 3) No shunting is permitted at north end of the yard on DN line 4) DN despatch & shunt signals shall be kept at "ON"	1) Point No.21A&B shall be kept in normal position.	1) Open BM-114 at Tilaru-SSP 2) Open BM-115 & 116 at Kotabommali/SSP 3) Open SM-139 at location No. 728/12 of Tilaru yard. 4) Close BM-114 at Tilaru-SSP	1) Close BM-115 & 116 at Kotabommali-SSP 2) Close SM-139 at location No. 728/12 at Tilaru yard.
9.	4) UP E/S 11701 between Kotabommali-SSP to SM-138 at Tilaru on UP line	1) Line clear shall not be granted to Kotabommali for trains on UP line. 2) No shunting is permitted at north end of the yard on UP line 3) Necessary reception & Shunt signals shall be kept at ON'	1) Point No.21A&B shall be kept in normal position.	1) Open BM-113 at Tilaru-SSP 2) Open BM-115 & 117 at Kotabommali/SSP 4) Open SM-138 at location No. 728/9 of Tilaru yard. 4) Close BM-113 at Tilaru-SSP	1) Close BM-115 & 117 at Kotabommali-SSP 2) Close SM-138 at location No. 728/9 at Tilaru yard.

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10.	UP E/S 11703 between SM-138 at Tilaru to Tilaru-SSP on UP Main, UP Loop & Hot Axle siding.	1) UP trains shall not be Dispatched from UP main and UP loop . 2) UP trains shall not be admitted on UP main Line & UP loop 3) UP despatch signals of UP Main, UP loop shall be kept at "ON".	Nil	1) Open BM-113 at Tilaru-SSP 2) Open BM-115 & 117 at Kotabommalui/SSP 5) Open SM-138 at location No. 728/9 of Tilaru yard. 4) Close BM-115 & 117 at Kotabommalui/SSP	1) Close BM-113 at Tilaru-SSP 2) Close SM-138 at location No. 728/9 at Tilaru yard.
11.	UP ES No.11301 between Tilaru-SSP to SM-136 at Urlam section on UP line.	1) Line clear shall not be obtained from Urlam for trains on UP line. 2) UP trains shall not be admitted on UP main lie directly. 3) UP trains shall not be dispatched from common loop 4) Necessary UP despatch signals shall be kept at "ON".	1) Point No.24A&B shall be kept in normal position.	1) Ensure BM-109 is in open position at Urlam-SP. 2) Open BM-111 at Urlam-SP. 3) Open BM-112 & BM-113 at Tilaru-SSP. 4) Open SM-136 at location No.739/7 of Urlam yard 5) Closer BM-111 at Urlam-SP	1)Close BM-112 & 113 at Tilaru-SSP. 2) Close SM-136 at location No.739/7 of Urlam yard.

NOTE: -

- 1) For any unusual movement of Electric locos, the Station Master on duty must refer to the working rule diagram from 25 kV AC traction of his station and ensured that there is no chance of energizing the section where power block has been granted.
- 2) Points leading to unwired tracks shall not be used for the movement of electric loco with pantograph raised.
- 3) Refer modified Drg. No. WAT/TRD/SWR/233/12.

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