



EASTCOAST RAILWAY

WALTAIR DIVISION



STATION WORKING RULES

URLAM STATION

EAST COAST RAILWAY
WALTAIR DIVISION
INDEX OF URLAM STATION

SL NO	DESCRIPTION	PAGES
1	Station Working Rules	1 to 24
2	Appendix-A	25 to 73
3	Appendix-B	74 to 92
4	Appendix-C	93
5	Appendix-D	94 to 95
6	Appendix-E	96
7	Appendix-F	98 to 109
8	Appendix-G	110 to 119

EAST COAST RAILWAY

WALTAIR DIVISION

INDEX OF CORRECTION SLIPS

[illegible]

East Coast Railway
WALTAIR DIVISION
STATION WORKING RULES OF URLAM STATION
(BROAD GAUGE)

No.WTP/5/SWR/ULM

Date of Issue: _____

Date brought into force: _____

Ref: Railway Board's Letter No 2000/Safety (A&R) 19/36 Dated:27-10-2005

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

1.0 STATION WORKING RULE DIAGRAM:

- a) Station Working Rule Diagram: SI/WRD/21113 Alt-'H'
 b) CSTE/E.Co.Rly/DRG No : SI/21113 Alt-'H'
 c) Date up to which corrected :

2 DESCRIPTION OF STATION:

URLAM: (Station Code ULM) station is a 'B' Class station on the Howrah – Chennai Double Line, Electrified, BG Section of East Coast Railway on the trunk route. It is situated at KM 738.853 from Howrah on S.E.Rly.

2.1 GENERAL LOCATION:

a.	Name of the Station:	:	URLAM(Code: ULM)
b.	Class	:	'B'-Class
c.	Name of the section	:	Howrah- CHENNAI
d.	Double/Single/Multiple Line	:	Double Line
e.	Electrified/Non-Electrified	:	Electrified
f.	Gauge BG/MG/NG	:	BG
g.	Railway	:	East Coast Railway
h.	Route	:	'B'-Route
i.	Situated at	:	738.853 From HOWRAH
j.	No. of Cabins	:	Nil

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

i)	Block Station	Distance	Direction
	TILARU	9.78 Kms	HWH END
	SRIKAKULAM ROAD	10.0 Kms	VSKP END

(P.S.BHATTACHARYYA)
 DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
 SR.DOM/M/WAT

ii) **IBH/IBS/OUT LYING SIDING/DK STATION:**

IBH signal is provided between CHE & ULM stations on both UP & DN lines at Km: 743.361 & Km: 743.000 respectively.
Details of working of IBH are given in appendix –‘F’.

iii) **AUTOMATIC SIGNALS:**
NILiv) **OUTLYING SIDINGS/DK STATIONS:**
Nil2.3 a) **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 “Block Section” Ends
ULM-TIU DN Direction	a) The advance block section commence at Dn advanced starter signal No 8 of ULM on Dn line.	Ends at Dn BSLB on Down line of TIU South end.
ULM-TIU UP Direction	b) The rear block section commence at Up advanced starter signal No 7 of TIU on Up line	Outermost facing point no 13 of ULM.
ULM-CHE UP Direction	a) From UP Advance starter No 11 of ULM. b) From UP IB Home signal no. 33 of ULM.	a) To a point 400M beyond UP IB Home signal no.33 of ULM at km 743.361. b) Up to BSLB of CHE Station.
ULM-CHE DN Direction	a) From DN Advance starter No.16 of CHE. b) From DN IB Home signal no. 30 of CHE.	a) To a point 400M beyond DN IB Home signal no. 30 of CHE at km 743.000. b) Up to BSLB of ULM Station.

b) Station limits: DN distant signal to UP distant signal.

c) Station section:

DN Line: BSLB to DN Advance starter signal.

UP Line: Outermost point no. 13A to UP Advance starter.

2.4 **Gradients if any:**

Towards HWH on UP & Dn. Lines	Chainage		Stretch	Gradient
	From	To		
	00.00	950	950m	Level
	950	1222.86	272.86m	1 in 895 Falling

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

Towards VSKP on UP & DN Lines	1222.86	2173.23	950.37m	Level
	2173.23	2275.00	101.77m	1 in 400 Falling
	2275.00	2820.00	545.00m	Level
	2820.00	In to Section	--	1 in 400 Raising
	00.00	1477.00	1477m	Level
	1477.00	1700.00	223m	1 in 200 Falling
	1700.00	1800.00	100m	Level
	1800.00	2200.00	400m	1 in 325 Raising
	2200.00	2350.00	150m	Level
	2350.00	In to Section	--	1 in 345 Falling

C) IBS ZONE:

i) TOWARDS ULM END (DN LINE):

From km	To km	Stretch	Gradient
From section	744.56	--- ----	1 in 280 falling
744.56	744.14	420M	Level
744.14	743.44	700M	1 in 200 Falling.
743.44	742.09	1350M	Level
742.09	741.92	170M	1 in 500 Falling
741.92	Into section	---	Level

ii) TOWARDS CHE END (UP LINE):

From km	To km	Stretch	Gradient
From section	741.260	---	1 in 400 falling
741.260	742.01	821M	Level
742.01	743.51	687M	1 in 1000 raising
743.51	744.16	1223M	1 in 480 raising
744.16	744.61	450M	Level
744.61	Into section	---	1 in 440 falling

2.5 Layout :

The Station is provided with four running lines with isolation. A rail level island platform (350 M x 10.36 M) is provided between line 3 down main and line No 4 down loop. Another rail level platform (182.88 M x 3.05 M) is provided on the station building side connected to Up Main line and low level platform on line No 1 up loop.

2.5.1 RUNNING LINES, DIRECTION OF TRAFFIC, HOLDING CAPACITIES CSR.

The Station is provided with three running lines viz. Up and Down Main lines and Down Loop.

a) **Holding Capacities of Running Lines**

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

Line No. 1	(Up Loop)	CSL 735.60 M (STR-STR)	(Electrified)
Line No. 2	(Up Main)	CSL 746.20 M (STR-S.S)	(Electrified)
Line No. 3	(Dn. Main)	CSL 791 M (STR-S.S)	(Electrified)
Line No. 4	(Common Loop)	CSL 771 M (STR-STR)	(Electrified)

b) **DIRECTION OF TRAFFIC:**

The Trains coming from Palasa and proceeding to VSKP are Up trains and the trains coming from VSKP and proceeding towards Palasa station are Down trains.

2.5.2 NON RUNNING LINES

Nil

2.6 Level Crossings:

SN	LC Gate No. with Classification and Department	Between stations with Location Km.	Type	Normal position	Whether interlocked	Provision of Telephone
1	ML-419 "B1" Class Engineering	ULM-TIU 737/3-5	Lifting barrier	Open to Road traffic	Interlocked	Provided
2	ML-420 "A" Class Engineering	ULM-TIU 735/25-27	Lifting barrier	Closed to Road traffic	Non-Interlocked	Provided
3	ML-421 "C" Class Traffic	CHE-ULM 739/15-17	Lifting barrier	Open to Road traffic	Interlocked	Provided
4	ML-422 "C" Class Engineering	CHE-ULM 74523-25	Lifting barrier	Closed to Road traffic	Non-Interlocked	Provided

(Detailed working shown in APPENDIX 'A' of SWR)

3. SYSTEM AND MEANS OF WORKING:

The trains are worked under Absolute Block System in accordance with GR 7.01(i)(a), GR Chapter VIII Rules Nos. 8.01(1)(a) & (b), 8.01(2), (b), 8.03(i), 14.01 to 14.07, 14.08(a), 14.09, 14.10 and 14.13 and BWM Chapter-V on either direction.

3.01 a) Block Instruments:

SGE type lock and block instruments are provided in the SM's office for Section ULM-TIU and ULM-CHE. The block instruments shall be operated by the Station Master on duty and he will maintain the train signal register and other relevant records. Taking Off of the Last Stop Signal is the

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

authority for the Loco Pilot to proceed into the block section vide GR 14.08(a).

- b) The double line locks & block instrument non-cooperative are provided with locking arrangement to avoid un authorized operation. The instrument can be locked in operated or in normal position. The key of the instrument must be kept in the personal custody of the Station Master on duty.
- c) The Block instruments are also provided with attached telephone communication facility with the adjacent station of the section concerned.

4. SYSTEM OF SIGNALLING AND INTERLOCKING:

Urlam Station is a Standard II(R) interlocked panel working station. The station is equipped with manually operated multiple aspect colour light signals. The significance of the various combinations of the multy aspect colour light signaling lies in accordance with GR 3.07(4), 3.08(4)(b), 3.13 & 3.13(6)(b) & 3.14(9). All crossover points are motor operated points.

4.1. Panel:

- a) A small mimic indication Panel is installed in the Station Master office, parallel to the track corresponding to the layout of the yard in either direction. Push buttons are provided on the Panel for operation of points, signals and other controls such as crank handle control and siding control etc. and the entire installation is operated by electric power. Station Master on duty is the only authorized person, to operate the Panel and provided with Station Master's lock up key to avoid unauthorized operation. The Panel can be locked either in operated position or normal position. The key of the Panel must be in the personal custody of Station Master on duty. (Details are explained in Appendix 'B')
- b) The electrical motor point machine of the points is provided with in built locking and detection. When the point is correctly set and locked a white strip light appears on the point zone indicating the correct setting and locking of the point to the operated, position.

4.1.1 Track Circuits:

Both UP & DN Main lines, UP & DN. Loop are provided with berthing track circuits as:

Up Main Line : UMT 1, UMT 2 and UMT3
 Dn. Main Line : DMT 1, DMT 2 and DMT3
 Common Loop Line: DLT 1, DLT 2 and DLT3
 Up Loop Line : ULT 1, ULT 2 and ULT3

Point zone track circuits are also provided as 14AT, 14BT, 16AT, 16BT, 15AT, 15BT, 18BT, 13BT & 17T.

In addition there are short length track circuit in advance of Adv Starter signals and home signal in both the directions are also provided for calling on signals (seven rail length) track circuit are also provided is rear of the home signal in both directions.

Axle Counters:

For SEC: ULM – TIU:-

Axle counters are provided in between ULM-TIU on DN Line for DN LVV one just beyond Dn advanced starter No. 8 of ULM and another one on 2T2 track circuit beyond DN Home signal No.2 of TIU to prove clearance/occupation of block section between ULM-TIU. Similarly another pair of Axle Counters are provided between TIU-ULM on Up for UP LVV one beyond Up advanced starter signal No.13 of TIU and another inT2 circuit beyond Up Home Signal No.1 of ULM to prove clearance/occupation of block on Up line between TIU-ULM.

For SEC: ULM - CHE,

A pair of digital axle counter is provided between **ULM - CHE** on DN line, one just beyond DN advanced starter No.16 of CHE and another one just beyond 400mts from the DN IB Home signal No. 30 of CHE for proving IB section and another pair of digital axle counter near DN IB home signal no. 30 of CHE and another one just near BSLB of ULM station for proving LVV section between ULM - CHE. A pair of digital axle counter is provided between ULM - CHE on UP line, one just beyond UP advanced starter No.11 of ULM and another one just beyond 400mts from the UP IB Home signal No. 33 of ULM for proving IB section and another pair of digital axle counter near UP IB home signal no. 33 of ULM and another one just near BSLB of CHE station for proving LVV section between ULM - CHE.

4.1.2 CRANK HANDLE:

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

<u>CRANK HANDLE</u>	<u>CONTROL POINTS</u>
CH-1	13
CH-2	15.16
CH-3	17.18
CH-4	14

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 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.

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

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

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

Relay room is provided with two independent locks. The key of one lock shall be in the personnel custody of Station Master on duty and the key of other lock shall be in the custody of S&T Maintainer. In the event of necessity such as for attending failure, or regular maintenance, on being requisitioned by S&T maintainer, SM shall hand over the key to the Maintainer with proper acknowledgement in the Relay room key register. On completion of the work, maintainer shall lock the relay room by using both the keys separately and designated key should be handed over to the Station Master. The details of the transaction is to be properly recorded in the Relay room key register maintained at the station and duly signed by the SM and Maintainer respectively vide OM 2015 para no. 13.16

4.3 POWER SUPPLY:

- i) A changeover switch is provided in the Station Master's Office with the three power supplies viz., Up AT, Down. AT and Local, for changing the switch to the required supply position. A luminous indicator above the circuit breaker for each supply indicates the availability of the supply.
- ii) Normally the switch will be kept towards Up AT or Dn AT position. Whenever power block is to be given on the line, the on duty SM must ascertain that

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

power is available on the other AT.

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

- iii) In case of failure of one of the AT supply without any power block, the on duty SM. has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is down and when tripped it goes up.) In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch.

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

- iv) For IPS system that provides to SSI auto-change over has been provided.

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

REMOTE MONITORING ASM BOX:

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

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

5.0 TELECOMMUNICATIONS:

The details of telecommunication facilities for train working are as follows.

- 1) Telephone attached to SGE Type lock and block instrument connected to the adjacent stations on either side.

- 2) Magneto phone is provided between Station and to the LC gates ML-419,ML-420,ML-421 & ML-422
- 3) Tele communication equipment (Magneto Phone) is provided for sections ULM-CHE and ULM-TIU.
- 4) The station is connected to VSKP-PSA train control phone.
- 5) The station is connected to VSKP-PSA traction power control circuit.
- 6) VHF set connecting adjacent stations.
- 7) Auto telephone connecting Divisional HQ & station between VSKP – PSA.
- 8) BSNL Auto Phone.
- 9) Communication is provided between SM's Office and crank handle location at both end.
- 10) Magneto phone is provided on UP IB signal post of ULM Station at km: 743.361.

5.1 PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF COMMUNICATION

- i) In the event of failure of partial communication between Block stations line clear transactions shall be made in order of priorities on stipulated in SR 6.02.06.
- ii) In the event of total failure of communications between Block station line clear transactions shall be made as per SR 6.02.03.
- iii) In the event of single line working on double line section introduced during total failure of communications trans shall pass as per stipulation given under SR 6.02.02.
- iv) When telephone communication with L.C. Gates failed the same shall be intimated to the SM at the other end of the Block section concerned .All trains entering such Block section shall be issued with a caution order to the effect.

6. SYSTEM OF TRAIN WORKING:

The movement of trains is regulated by section controller on duty whose orders shall be complied with provided they do not contravene any provisions of General Rules, Subsidiary Rules, Station Working Rules, Block working manual and any

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

other safe working instructions issued from time to time.

In the event of suspension of control working the SS/SM on duty shall work independently in conjugation with the SS/SM of adjoining Block Stations and shall be responsible for reception and dispatch of trains and to ensure that there is no undue delay to train operation in general.

6.1 Duties of train working staff:

The detailed duties of train working staff such as Station Superintendent, Station Master, Token Porter, Safaiwala cum lamp man etc are given at Appendix 'D' of the SWR.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

The following is the Complement of operating Staff at the station.

SS in charge	1
SM/SS	1
Traffic points man	1
Traffic gate keeper	1

Note: Staff deployed at the station shall follow the rosters issued by Sr.DPO/WAT from time to time.

6.1.2 RESPONSIBILITY FOR ASCERTAINING CLEARANCE OF THE LINES AND ZONES OF RESPONSIBILITY:

The SS/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.

USE OF PRIVATE NUMBER BOOKS AND IDENTIFICATION NUMBER SHEETS:

Sufficient private number books and identification number sheets in sealed covers shall always be kept in stock by SMR under locked condition. A register shall be maintained for this purpose.

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.

6.2 Conditions for Granting Line Clear :

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

The train are worked under Absolute Block system with double line working and MACL signaling vide GR 8.01(1)(a) & (b), 8.01(2)(b) and 8.03(1)(a), (b)&(c)(ii), S.R 3.42.05 and SR 3.68.05

The line shall not be considered clear and Line Clear shall not be given unless :

- i) The whole of the last preceding train has arrived complete.
- ii) All necessary signals have been put back to 'ON' behind the said train.
- iii) The line is clear upto the BSLB on Dn Line for Dn trains and Upto the outermost facing point No 13 on Up line for Up line.
- iv) For UP trains ensure closure of LC gate ML-420 & for DN trains ensure closure of LC gate ML-421.
- v) The Station Master on duty before giving such permission shall ensure that all signal lights pertaining to the train are burning properly.

Note:

- i) If the light of the reception signal is found not burning, line clear shall not be granted for a 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 or alternatively such signal is lit up.

6.2.1 Special conditions to be observed while receiving on Dispatching Train:

UP & DN Main line and the loop line are track circuited. In case of failure of track circuits, the clearance of the nominated line has to be ensured physically before piloting IN a train.

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE:

When a running line is blocked by stabled load wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train at the station etc., the points in rear should be immediately set against the blocked line except when shunting or any other movement is required to be done immediately in that direction on that line vide GR 3.38(2). Lever/block collars placed on the concerned lever/button of the blocked line vide SR 5.04.01 and SR 3.51.06 shall be followed.

Safety point alarm:

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 of 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.

If all the lines of a station happen to be blocked, when line clear has been granted to a train, the points should be set for the line occupied by a stabled load or a goods train in that order so that, in case of mishap, the chance of causalities are minimized [Refer SR.3.51.06 (b)]. In case of all the lines are occupied by Coaching train, points should be set for a loop line to negotiate with the speed of incoming train would be reduced which in turn, would minimize the consequences/causalities.

6.2.1.2 RECEPTION OF TRAINS ON BLOCKED LINE:

In case of reception of a train on obstructed line the SM shall take off the concerned calling on signals. Incase of failure of calling on signals, he shall send the written permission in the for T/509 referred in 5.09.01[a] and shall enclose the reason for such admission, the line number and the nature of obstruction on that in setting and locking of points shall be done as per SR 3.69.03. A stop hand signal shall be exhibited by SM personally at a distance of not less than 45 M from the point of obstruction to indicate the loco pilot as to when the train shall be brought to a stand.

However the SM, whenever possible, shall intimate the loco pilot through the SM of station in rear and also by taking off calling ON signal.[Refer 5.09[1] & [2].

6.2.1.3 RECEPTION OF TRAINS ON NON-SIGNALLED LINE:

All running lines at the station are equipped with reception signals. If it becomes necessary to admit a train on non-signaled line the rules laid in GR 5.10 with SR there to shall be followed.

6.2.1.4 DESPATCH OF TRAINS FROM NON-SIGNALLED LINE.

All running lines at the station are equipped with dispatch signals. If it becomes necessary to dispatch a train from a non-signaled line the rules laid down in GR 5.11 and SR there to shall be followed.

6.2.1.5 DESPATCH OF TRAINS FROM A LINE PROVIDED WITH COMMON STARTER SIGNAL

All running lines at the station are equipped with individual starter signals.

6.2.1.6 ANY OTHER SPECIAL CONDITIONS

Nil

6.3 CONDITIONS FOR TAKING “OFF” APPROACH SIGNAL.**a) RECEPTION OF TRAINS**

Reception of trains is governed by rules laid down in GR 3.36, 3.38, 3.40, 3.49, 3.07 (4) & 4.17 and SRs thereto SR 3.42.02 (iv) & 3.42.03 & 4.23 and other relevant provisions of G&SR, BWM and OM shall be followed.

b) ADEQUATE DISTANCE:

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

LINE NO.	CLEARANCE OF ADEQUATE DISTANCE			
	FOR UP TRAINS		FOR DOWN TRAINS	
	FROM	TO	FROM	TO
UP Loop (L-1)	UP Starter No.5	UP Advanced Starter No.11 OR End of over run line	-	-
UP Main (L-2)	UP Starter No.3	UP Advanced Starter No.11	-	-
DN Main (L-3)	-	-	DN Starter No.6	DN Adv Starter No 8.
DN loop (L-4)	Starter signal no. 7	End-of sand hump	DN Starter No.4	End of over run line OR DN Adv Starter No.8

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

The signal inter locking at the station ensures restoration of signal to ‘ON’ aspect automatically by the passage of the train past the signal and its track circuit zones, but the control operating the signal shall not be resorted to normal position till the whole train has passed it vide GR 3.36(2)(b).

However when a signal doesn’t assume its ‘ON’ aspect after the passage of the train SM shall endeavor to put back the signal to ‘ON’ position immediately and when it is not possible the green glass shall be broken and the procedure laid in GR 3.36, SR 3.36.02, GR 3.68 with SR there to shall be followed.

6.4 Simultaneous Reception/Dispatch, Crossing and Precedence of Trains:

According to the existing interlocking at this Station the simultaneous reception and dispatch of trains is permitted as stipulated below :

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

Reception of an Up train on Line No.1	&	Dispatch of another Up train from Line No.2
Reception of a Dn train on Line No.4	&	Dispatch of another Dn train from Line No.3
Reception of an Up train on Line No.4	&	Dispatch of another Up train from Line No.1 OR 2

In addition to Up and Down main lines, a down loop line and an Up loop line are provided hence precedence of Up and Down trains may be arranged whenever such occasion arises as per rules. Vide SR 3.47.01, 3.47.02 and SR 3.51.06 shall be followed.

6.5 CROSSING PRECEDENCE OF TRAINS:

In addition to the normal provision of reception and despatch of train the rules laid down in SR 3.47.01, 3.47.02 and SR 3.51.06 shall be followed.
Precedence of trains is controlled by SCR and CHC coaching.

6.5.1 COMPLETE ARRIVAL OF THE TRAINS:

For SEC: ULM – TIU:-

Axle counters are provided in between ULM-TIU on DN Line for DN LVV one just beyond Dn advanced starter No. 8 of ULM and another one on 2T2 track circuit beyond DN Home signal No.2 of TIU to prove clearance/occupation of block section between ULM-TIU. Similarly another pair of Axle Counters are provided between TIU-ULM on Up for UP LVV one beyond Up advanced starter signal No.13 of TIU and another inlt2 circuit beyond Up Home Signal No.1 of ULM to prove clearance/occupation of block on Up line between TIU-ULM.

For SEC: ULM - CHE,

A pair of digital axle counter is provided between **ULM - CHE** on DN line, one just beyond DN advanced starter No.16 of CHE and another one just beyond 400mts from the DN IB Home signal No. 30 of CHE for proving IB section and another pair of digital axle counter near DN IB home signal no. 30 of CHE and another one just near BSLB of ULM station for proving LVV section between ULM - CHE. A pair of digital axle counter is provided between ULM - CHE on UP line, one just beyond UP advanced starter No.11 of ULM and another one just beyond 400mts from the UP IB Home signal No. 33 of ULM for proving IB section and another pair of digital axle counter near UP IB home signal no. 33 of ULM and another one just near BSLB of CHE station for proving LVV section between ULM - CHE.

The entire block section between ULM – CHE and ULM-TIU 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 :

Dispatch of trains is governed by provision of GR 3.42 and SRs there to 3.36.04(b), SR 3.42.01(b), SR 3.42.04 and BWM 2.07(5)(a), (e), (f) & (g) and other relevant provisions of G&SR, BWM and SWR.

6.6.1 OBTAINING LINE CLEAR – SETTING AND LOCKING ROUTE AND TAKING OFF DEPARTURE SIGNAL.

Station Master on duty shall ensure physically that the line between starter signal and Up to Advanced starter is clear of all obstruction shall obtaining line clear for the concerned train. He shall first suspend all non isolated shunting and shall with draw the shunting authority issued earlier and kept in his possession. SM on duty shall also ensure closing and locking of LC gate against road traffic from gate man supported by private number. He shall then set the route for the out going train from the panel and take "OFF" the departure signals.

6.6.2 TRAIN ENTERING BLOCK SECTION:

The SM on duty after observing that the train has passed past the advanced starter signals [Both physically & through Panel indication] shall restore the departure signal control to their normal position and send the TRAIN ENTERING BLOCK SECTION signals vide BWM 2.07.[5][a].

6.7.0 Trains Running Through:

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

- i) In addition to procedure detailed in paras Reception and Despatch of trains rules laid down in GR 4.17, 4.42, 3.36, 3.42 with relevant SRs shall be followed.
- ii) Reception and despatch signals shall be taken 'OFF' for a through train as per the sequence given below vide SR 3.42.02[a][iv], SR 3.42.03 and SR 3.42.04.
- iii) In every case in which trains are permitted to run through on non-isolated line, all shunting shall be stopped and no vehicle unattached to an engine or not properly secured in accordance with rule GR 5.23 may be kept standing on a connected line which is not isolated from through line.

6.7.1 ISSUE OF CAUTION ORDERS:

Whenever in consequence of the line being under repairs or for any other reasons special precautions are necessary a Caution Order detailing the Kilometers and Speed at which train should run with reasons for taking such precautions shall be handed over to the Guard and Loco Pilot in terms of GR 4.09 and SR thereto.

6.8 WORKING IN CASE OF FAILURE:

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

6.8.1 DEFECTIVE SIGNALS:

- a) When Signals become defective, the procedure laid down in GR 3.63 to 3.71, 3.75, 3-80, 3.81 and SRs there to shall be followed.
- b) 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 before the Signal is declared as defective irrespective of what is indicated by the position of the route, point levers and lock levers vide SR 3.68.01 [c]. In case of disconnection of Signalling and interlocking gears for repairs and maintenance Procedure laid down in GR 3.51, 3.69. and relevant SRs shall be followed.
- c) In the event of Signal showing no lights, and if Signal lights can not be kept burning, Station Master on duty shall before giving line clear' initiate action in accordance with the procedure prescribed in GR 3.49(4) & GR 3 68 to 3 77 and the relevant SRs.

6.8.2 DEFECTIVE INTER MEDIATE STOP SIGNAL:

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

The detailed procedure is given in appendix F.

6.8.3 DEFECTIVE INTERLOCKING:

When interlocking becomes defective, the Station Master on duty shall be personally responsible to supervise the setting, clamping and padlocking of all required facing points for admission despatch of all trains vide SR 3.69.03(c).

The trains shall be piloted 'IN' or 'OUT' as the case may be vide GR 3.79 & 3.70 with SR there to.

6.8.4 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

However, before declaring a signal is defective, the setting of the point on the route to which it applies shall be inspected by the SM irrespective of the position of the points in terms of SR 3.68.01(C) and 3.68, 3.70, with relevant SRs and SR 3.77.01(b) shall be followed.

6.8.5 DEFECTIVE OR DAMAGED POINTS:

- i) When points become defective, the signals controlling these points shall be considered as defective and vice-versa and action to be taken as prescribed under GR 3.77 relevant SR's thereto.
- ii) When points become defective and cannot be operated from panel the points are to be set manually by crank handle. The crank handles are interlocked with the system and are housed in the crank handle goomties at either end of the yard.

SM on duty shall depute his staff to the goomty who shall extract the crank handle key from the RKT in goomty electrically transmitted by SM on duty at the station.

4 crank handles CH 1, CH 2, CH 3 & CH 4 are provided to operate all points in the yard when necessary.

The details procedure given at Appendix 'B' and OM 20.06 shall be followed for use of crank handle.

6.8.6 FAILURE OF AXLE COUNTERS / TRACK CIRCUITS

Whenever Track Circuits of the berthing line and/or crossover zone fail, the clearance of such zone must be verified physically by SM on duty/competent railway servant deputed by SM before initiating any movement over the affected zone.

On confirming the clearance of the failed Track Circuits zone the procedure

for piloting “IN”/ “Out” shall be followed.

The failure of Track Circuits must be recorded in a separate register provided for the purpose and S&T maintenance staff shall be intimated immediately and also to the train controller.

6.9 PROVISIONS FOR WORKING OF TROLLEYS/MOTOR TROLLEYS/MATERIAL TROLLEYS:

- i) Motor trolleys shall be worked as per GR 15.25, and SRs there to and BWM 5.11(2), 5.12, 5.13 and 5.14(2)(b) and circulars and orders issued from time to time. Material trolleys shall be worked as per GR 15.27 and SRs thereto and BWM 5.11(2), 5.13, 5.13(2)(b).
- ii) The section where Axle counters are provided in lieu of track circuits, Trolleys, Motor Trolleys, Lorries etc., which are not insulated shall not be allowed to run except on line clear.
- iii) Motor Trolleys/ Tower Wagons/ Material Lorries are not likely to actuate the Axle counters correctly. When they are to run over the section split by Axle counters, the whole section is to be treated as one section and next train to started after the last train has arrived complete.
- iv) Any other restrictions on movement of trolly. In view of item (ii) & (iii) above, motor trollies are not be allowed on following line clear.

7. BLOCKING OF LINES:

A clear remark in RED ink shall be made immediately in the Train Signal Register indicating time and number of running line blocked. A record thereof shall be made in the Station diary also vide 3.36.03(a) shall be followed.

USE OF REMINDER COLLARS:

SM on duty when ever a running line is blocked for any reason Reminder Collars provided for the purpose shall be placed on the concerned Home Signal and Point button.

7.1 LOADING AND UNLOADING OF VEHICLES ON RUNNING LINES:

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

7.2 SECURING OF VEHICLES:

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

The rules laid down in GR 5.23, SR 5.23.01, 5.19.01(a) and OM 7.08 shall be followed.

NOTE: Special care shall be taken to secure special type of vehicles fitted with roller bearings while standing in siding on running lines vide SR 5.23.01[b].

8.0 SHUNTING:

The rules laid down in GR 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16, 5.17, 5.19, 5.21, 8.06 and 8.15 with relevant SRs shall be observed. All shunt movements shall be supervised by Guard/Station Master/Pointsman on duty vide SR 5.13.03 as the case may be. In yard shunt signal have been provided below the starter signals and shunt back signal beyond outer most point have been provided to control all shunt movements in the yard.

For any non-signalled movement, physical verification of the clearance of the crossover points shall be ensured by the SS/Station Master on duty and the points both facing and trailing shall be clamped and pad locked.

8.1 Shunting in the face of approaching train:

The rules laid down in GR. 8.05 & 8.06 may be followed.

8.2 Prohibition of shunting, special features if any:

- i) Hand shunting is prohibited at both ends of the yard.
- ii) Fly shunting is prohibited at both ends of the yard.

8.3 Shunting on Single Line:

Not applicable.

8.4 SHUNTING ON DOUBLE LINE:

8.5.1 SHUNTING OUTSIDE THE HOME SIGNAL:

- a) The procedure of block back / block forward given in BWM 5.15(1)(b) shall be followed.
- i) When line clear has been given, No shunting shall be permitted in the block section in rear.
- 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.
- 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).

8.5.2 SHUNTING OUTSIDE STATION SECTION:

- a) Shunting shall not be permitted outside station section i.e. in the block section in rear unless it is clear and is blocked back.
- b) Shunting shall not be permitted in block section in advance unless it is clear and is blocked forward.

8.5.3 SHUNTING WITHIN STATION SECTION:

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

8.5.4 DURING FAILURE OF BLOCK INSTRUMENT:

During failure of SGE Double line Block instrument shunting in the block section in advance/in rear shall not be performed unless the section is clear of all trains and the Block section is Blocked back/Blocked forward as the case may be.

8.5.5 SHUNTING IN REAR OF TRAVELING AWAY TRAIN:

Shunting in rear of traveling away train is Governed by GR 8.06.03.
A competent railway servant shall supervise the shunting operations and the train must have sufficient brake power.

8.6 Shunting in the siding taking Off from Station Yard:

Not applicable

8.6.1 WORKING OF OUTLYING SIDINGS, IF ANY:

Nil.

9.0 ABNORMAL CONDITIONS:

- a) **RULES TO BE OBSERVED IN THE EVENT OF ABNORMAL CONDITIONS:**
 - i) **During partial interruption/ failure of electrical communications instrument:**

During partial interruption of communications trains shall be worked in

accordance.

ii) **Authority to proceed in to the occupied block section in case obstruction of line or accident etc. (Block Ticket):**

Whenever it becomes necessary to send a train into the block station already occupied by another train or due to accident, trains shall be worked in accordance with SR 6.02.05. The authority to proceed shall be block ticket (i.e T/A 602) or as per SR 6.02.05.

iii) **Trains delayed in block section:**

The rule laid down in GR 6.04 shall be observed.

iv) **Failure / Passing of intermediate block stop signal at 'ON':**

-Nil-

v) **Failure of axle counter block / BPAC:**

Procedure detailed in Appendix 'B' Para 6.7 to be followed.

vi) **Failure of MTRC:**

Not applicable.

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

i) Whenever Motor points cannot be operated from panel the same has to be operated by using crank handle. Four crank handles CH 1, CH 2, CH 3 & CH 4 are provided and housed in RKT at goomtias at either end of the yard near to the point zone. The crank handle can be released by pressing the button on the panel. The detailed procedure is given at Appendix 'B' para 21.0.

ii) **Procedure for Emergency operation of point with axle counter track circuit failure.**

Whenever the point zone axle counters / track circuit fails the clearance of the zone must be ensured by physical verification before initiating any movement over the zone by SM on duty.

When it is clear the SM on duty shall resort for resetting process of Axle counter and the point shall be clamped and pad locked for any movement over them and the procedure laid in SR 3.39.01, SR 3.39.03 & GR 3.77 with relevant SR shall be followed.

c) **Certification of clearance of track before “calling on signal” operation is initiated:**

Whenever Home Signal fails train may be admitted by taking ‘OFF’ Calling On Signal. However before taking ‘OFF’ the calling on signal the clearance of the berthing line and route upto Home signal must be ensured by physical verification by the SM on duty for admission of all trains.

Note: Calling on singal may also be taken “OFF” for admitting of train on to a blocked line vide GR 5.9(2)(a) duly observing the procedure laid in GR 5.09 with SR there to .

d) **Reporting failure of points, track circuits / axle counters and inter locking:**

i) Whenever there is a failure of points, track circuits / axle counters or any other interlocking gear at the station the failure should be reported by SM on duty to the concerned signal maintenance staff on duty responsible for attending the failure. When failure is rectified by S&T staff a written memo shall be obtained regarding rectification of fault, and only after testing the rectified gear for its satisfactory normal working the SM on duty shall resume the normal working vide SR 3.51.04 & SR 3.77.01 shall be followed.

ii) The failure & rectification should be recorded in the signal failure register with a message to section controller.

9.1 TOTAL FAILURE OF COMMUNICATIONS:

i) In the event of Total Failure of Communication on double line trains shall be worked in accordance with provisions SR 6.02.03.

ii) In the event of single line working on double line section during total failure of communications the provisions laid down in SR6.02.02 shall be followed.

9.2 TEMPORARY SINGLE LINE WORKING ON A DOUBLE LINE SECTION:

In the event of single line working on a double line section when communication is available, the provision laid down in SR 6.02.01 shall be followed.

9.3 DESPATCH OF TRAINS UNDER AUTHORITY TO PROCEED WITHOUT LINE CLEAR OR TO ASSIST A CRIPPLED TRAIN:

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

10. VISIBILITY TEST OBJECT:

The Signal lights of UP Starter Signal No.3 of Up Main Line and Dn Main Line Starter Signal No.6 during day and night are earmarked as visibility test objects vide GR 3.61(2)b(iii).

11.0 ESSENTIAL EQUIPMENTS AT THE STATION:

Details are given in Appendix 'E'

12.0 FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG: PROCEDURE FOR WORKING OF TRAINS DURING FOGGY WEATHTER:**FOG SIGNALLING:-**

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

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

12.1 STATION DETONATOR REGISTER (OPT/124):

A Register regarding detonator is maintained at the station.

12.2 INSTRUCTIONS:

This register contains the following parts.

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

In charge of the station shall ensure that the information maintained in the register is kept upto date and is accurate in all respects.

Transportation inspectors shall check the registers and also the stock of detonators on hand each time they visit the station and initial with date as an indication having done so.

13

APPENDICES :

APPENDIX-A	:	WORKING OF LEVEL CROSSING GATES
APPENDIX-B	:	SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION.
APPENDIX-C	:	ANTI COLLISION DEVICE (RAKSHA KAVACH)
APPENDIX-D	:	DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT
APPENDIX-E	:	LIST OF ESSENTIAL 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

14

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 URLAM STATION.

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/M/WAT

APPENDIX ‘A’ STATION WORKING RULES OF URLAM STATION
L.C. GATE AT KM 737/3-5

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1	No. of Level Crossing Gate	:	ML-419
2	Engineering or Traffic gate		Engineering Gate (‘B’-Class)
3	Under control of station master or permanent way inspector.		SSE(P)CHE
4	Location at Km.		KM. 737/3-5
5	At station		MID SECTION
6	In between station		TIU-ULM
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 signals at Km.	:	i) Up Line : UP gate home ii) DN Line : DN gate home
13	Signaling arrangement	:	MACLS
14	Means of communication Telephone.	:	Telephone with SM/ULM
15	Width of the level crossing gate	:	7.5 M
16	Type of road	:	Others
17	Name of road	:	Sundrapuram Road
18	Metalled /Non-Metalled	:	Metalled
19	Approach road	:	Kutchra
20	Width of the road	:	5.50 M
21	Angle of road crossing (in case of the SKEW gates)	:	90 ⁰
22	Road gradients (if any)	:	[a]North/East Side: 1 in 30 [b]South/West Side: 1 in 30
23	Road alignment (straight/Curve)	:	[a] North/East Side : Straight [b] South/East Side : Straight
24	Provision of height gauges	:	Provide
25	Type of barriers	:	Lifting Barriers
26	Length of check rails	:	9.5 M
27	Road surface in between level	:	C.C Block

- crossing gates.
- 28 Length of rumble strip/ speed : 5.5 M
breakers.
- 29 Road signs : Provided
- 30 Speed breakers indication board : Provided
- 31 TVU: : 34,084 Oct-2018
- 32 Census next due on : 2021
- 33 Demarcation for placement of : Provided
detonators.
- 34 No. of gateman working : 2
- 35 Nearest Railway Medical Assistance : Rly Health Unit CHE
- 36 Nearest Private Medical Assistance : Narasannapeta
available (if any)
- 37 List of equipment available (Yes/No) : Yes

1.2 EQUIPMENT:

Items	Quantity / Numbers
1. LED Tri Colour Hand Signal Lamp	3 (5 on Quadruple / Line or twin single line)
2. Hand Signal Flag Green	1 No with mounted stick
3. Hand Signal Flag Red	3 (6 Nos. on Quadruple / Line or Twin Single line and 7 in case Hexaple Section mounted on sticks)
4. Banner Flag Red	3 (5 on Quadruple / Line or twin single line)
5. Posts for exhibiting red banner flag	2 (4 on Q / Twin single line and 5 on Hexaple section)
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in each case
8. Gate lamps	2 Nos.
9. Tommy Bar	1 No.
10. Mortar Pan	1 No.
11. Spade / Fowrah	1 No.
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 chin for use in case of 2 No. failure of gate boom/Leaf Lock

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.
12. Signal failure register.

1.4 **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. **COMPETENCY :**

Gateman working at this gate should have competency certificate applicable to perform duty at this gate issued by the sectional CH.DTI.

3. **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. **ROUTING 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 chains, 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 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 padlocks for securing the gate against road traffic.
- viii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector 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.

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:-

a) **On single line section:**

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

b) **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.
- 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 Permanent Way Inspector 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.

ANNEXURE-1
WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATE
INTERLOCKED WITH GATE SIGNALS, PROVIDED WITH TELEPHONE WITH
NORMAL POSITION; OPEN TO ROAD TRAFFIC FOR LC GATE AT KM NO:
737/3-5, LC NO. ML-419 BETWEEN ULM-TIU.

(General instructions are common for all type of Interlocked Level Crossing gates)

1. Mode of operation:
 Gate shall normally kept open to the road traffic, whenever it is required to close gateman on duty shall ensure clearance of road traffic, operate the electrical lifting barrier as per the following procedure.
 - [i] Buttons are provided on panel for closing and opening of LC gate Respectively (marked as green ‘G’ for closing and locking & yellow ‘Y’ for Opening respectively)
 - [ii] The Push button ‘G’ pressed, till the gate is close and locked. Then key-P is extracted from EKT-1.
 - [iii] Key-P thus extracted is inserted in EKT-2 and turned. Key-IN contact of EKT-2 along with switch ‘GS1’ and ‘GS2’ is reversed will clear UP gate stop signal GS1 & DN gate stop signal GS2 respectively.
 - [iv] For opening of LC gate, after passage of train, switch ‘GS1’ and ‘GS2’ is put back to normal, then key-P is extracted from EKT2 and inserted back I EKT-1 for operation of LC gate.
 - [v] In case of emergency, gateman will inform SM/ULM with PN number exchange, then KEY-Q (chained with crank handle) is extracted from EKT-3(Electro mechanically free) provided at gate lodge (in a locked and sealed red box with glass cover) for manual operation of lifting barriers by crank handling.
 - [vi] Extraction of KEY-‘Q’ shall put back all the relevant signals to ‘ON’.
 - [vii] Dead approach locking of 60 seconds is provided on KEY-P when in EKT-2.
 - [viii] Approach warning is provided and is effective.
 - a) In UP direction from track GS1AT.
 - b) In DN direction from 2KM in rear of DN gate stop signal to ‘ON’.

Working of Emergency Key :

- i) Normally crank handle welded with KEY-‘A’ remains inside the EKT (Provided in the sealed red box).
- ii) When the normal operation (closing / opening) of booms fail from the gate panel, the gateman on duty will inform SM/ASM on duty regarding the failure and seek is permission to use the emergency key.
- iii) After obtaining permission from SM/ASM on duty , The gate man on duty will break the seal of the red box, open it and takes out the key ‘A’ welded with crank handle from EKT.
- iv) BY using crank handle closing/opening of the booms are to be done.
- v) Extraction of the key ‘A’ shall put back all the relevant signals at ‘ON’.
- vi) After completion of the operation the key ‘A’ welded with crank handle is to be inserted in the EKT and the box to be closed and S&T staff is to be advised to seal the red box.

Working of Engineering level crossing gates interlocked with gate signals provided with telephone with normal position ‘Open to road traffic’:

- i) Immediately after departure of the train, Station Master shall inform the gateman through telephone connected at his end, the number, description, direction and expected time of passage of the train at the gate.;
- ii) If the telephone is connected to the station at the receiving end, this advice shall be given by the Station Master to the gateman as soon as he receives train entering section advice from the spatching 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 or excessive detention to road traffic.

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] If the telephone fails at the gate connected with the station at the dispatching end, SS/SM shall issue a caution order to the driver of the departing train.
- [ii] SS/SM shall advise the driver to whistle continuously and proceed cautiously while approaching the gate.
- [iii] 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.
- [iv] In case of an approaching train, the SS/SM shall advise the SS/SM at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- [v] The SS/SM at the dispatching end shall then issue a caution order to the driver before dispatching a train in the block section from his end.
- [vi] SS/SM will also advise the gateman through Gang man/Patrolman /Loco pilot of the first train that the telephone has become defective.
- [vii] SS/SM 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:

- (a) If a gate boom/barrier is damaged, the gateman shall-
 - (i) Close the level crossing against the road traffic with chain and padlock immediately or before allowing the movement of train as the case may be,
 - (ii) Report the fact over telephone or through the Loco Pilot of a passing train or through a Gangman to the Station Master of the adjacent station and the nearest Gangmate.
- (b) The Station Master on duty on receipt of the above information shall arrange to issue caution orders to the Loco Pilots and Guards of all trains entering into the section.
 - (i) To whistle frequently,
 - (ii) To stop 30m, short of the level crossing, and be guided by the hand signal given by the gateman.
- (c) The Station Master shall intimate the fact to the Station Master at the other end of the block section for issue of caution order with the similar instructions as mentioned in (b) above. The caution order shall continue to be issued till the defect is rectified. The Station Master shall also advise the JE/SE/SSE(Signal), JE/SE/SSE(P way) and other officials concerned for immediate rectification and other necessary action.

- (d) The Loco Pilots shall ensure that the level crossing is not obstructed and on being hand signaled by the Gateman, negotiate the level crossing cautiously.
- (e) Necessary entries shall be made in the Caution Order Register and Station Diary by the Station Masters at either end of the affected section.

(4) 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 key transmitter then gate man must immediately inform the SS/SM on duty on telephone under exchange of private number.
- [ii] 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.
- [iii] SS/SM on duty shall issue caution order to the Loco pilot before dispatching a train.
- [iv] He shall also advise the Station Master at the dispatching end under exchange of private number, to similarly issue caution order the driver before dispatching a train in block section for his end.
- [v] SS/SM shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- [vi] Normal working will be resumed only after S&T staff repair the key transmitter and issue re-communication / fit memo for the same.

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

- [i] The gate key cannot be extracted from the winch, gate signal level or key transmitter then gateman must immediately inform the SS/SM 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] SS/SM on duty shall issue a caution order to the Loco pilot of a departing train.
- [v] He shall also advise the SS/SM 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] SS/SM shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- [vii] After rectification the, Emergency Key shall be replaced in the emergency key box and released by the S&T maintainer.

6. Defective Gate Signals:

In the event of a gate signal becoming defective, the Gateman shall maintain the signal in the ‘on’ position and close and lock the gates across the road immediately on sighting a train.

In case of failure of gate signal in the ‘off’ position, the gateman shall at once close and lock the gates across the road, place a detonator 90 meters away from the defective signal and renew it after the passage of every train. The gateman may open the Gates to pass road traffic only after the signal is so protected. If this condition happens at night or if it continues after dark, the green glass of the signal

arm in question shall be broken so as to prevent a green light being seen by the Loco Pilot of an approaching train.

In either of the cases referred to in SRs 16.06.01 and 16.06.02, the gateman shall also advise the fact over the telephone or through the Loco Pilot of a passing train or through a gang man to the Station Master of one of the adjoining stations, who in turn shall advise the signal maintainer and other concerned officials of the section for immediate rectification. The Station Master shall also arrange for issue of caution orders to the Loco Pilots of passing trains from both directions on the single line section or from the concerned direction on the double/multiple line section till the defect is rectified. Until the defect is rectified, the gateman shall pass the trains over the level crossing by showing ‘Proceed’ hand signal provided the gates are closed and locked across the road traffic.

- [i] The gate man shall treat the gate signal as defective and must not take –off under the 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] The key can be extracted from the lifting barrier gates when the gate is in open condition.
- [ii] If the gate or the gate signal or distant signal becomes defective in ‘OFF’ position, the gateman will make all efforts to put it at ‘ON’ position turning signal switches to ‘N’ position.
- [iii] The gate man will immediately advise the SS/SM on duty, under exchange of private number regarding defective gate signals.
- [iv] Thereafter, the gate must be treated as non-interlocked and procedure for reception/dispatch as prescribed for non-interlocked gates should be adopted.
- [v] He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- [vi] SS/SM on duty will issued a caution order to the Loco pilot of a departing train.
- [vii] 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.
- [viii] SS/SM shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- [ix] Normal working will be resumed only after S&T staff rectifies the defective gate signal And issue reconnection /fit memo for the same.

7. 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 order 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 SS/SM on duty regarding the defects /obstruction at the gate, under exchange of private number.
- [iv] If there is no response from the SS/SM after two or three attempts, he shall first protect the gate and then inform on phone.
- [v] Gateman 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 instructions for duties of gateman under item no.1.5(5).
- [vi] Thereafter he shall protect the gate from the other direction also.
 - [vii] He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the SS/SM 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 SS/SM shall also inform the SS/SM 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 SS/SM accordingly, under exchange of private number.
 - [x] SS/SM shall then issue a caution order to the 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] SS/SM shall advise maintenance staff responsible for maintaining the lifting barriers/leaf gates to repair the same at the earliest.
 - [xiii] Normally working will be resumed only after maintenance staff rectifies the defective lifting barriers and issue reconnection /fit memo for the same.

8. 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.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 URLAM STATION LEVEL CROSSING GATES

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1	No. of Level Crossing Gate	:	420
2	Engineering or Traffic gate	:	ENGINEERING (‘C’-Class)
3	Under control of station master or permanent way inspector.	:	SSE/P.WAY/CHE
4	Location at Km.	:	KM. 737/25-27 (737.736)
5	At station	:	ULM
6	In between station	:	TIU-ULM
7	BG/MG/NG	:	BG
8	Single line/double line/multiple line	:	Double line
9	Normal position	:	Closed to Road Traffic
10	Interlocked/ Non-Interlocked	:	Non-Interlocked
11	Means of Interlocking	:	-
12	Provision of gate single at Km.	:	(i) Up Line : Nil (ii) DN Line : Nil
13	Signaling arrangement	:	----
14	Means of communication Telephone.	:	Telephone Connected with ULM Station
15	Width of the level crossing gate	:	7.50 M
16	Type of road	:	Other
17	Name of road	:	Batam to Narasampeta Road.
18	Metalled /Non-Metalled	:	C.C.BLOCK
19	Approach road	:	Metalled
20	Width of the road	:	5.50 M
21	Angle of road crossing (in case of the SKEW gates)	:	90 ⁰
22	Road gradients (if any)	:	[a]North/East Side: 1 in 30 [b]South/West Side: 1 in 30
23	Road alignment (straight/Curve)	:	[a] North/East Side : Stright [b] South/East Side : Stright

24	Provision of height gauges	: Provided
25	Type of barriers	: Lifting Barriers
26	Length of check rails	: 9.5 M
27	Road surface in between level crossing gates.	: Level
28	Length of rumble strip/ speed breakers.	: 5.5 M
29	Road signs	: Provided
30	Speed breakers indication board	: Provided
31	TVU:	: 6461 Dated 01/2016
32	Census next due on	: 2019
33	Demarcation for placement of detonators.	: Provided
34	No. of gateman working	: Two
35	Nearest Railway Medical Assistance	: CHE
36	Nearest Private Medical Assistance available (if any)	: ULM
37	List of equipment available (Yes/No)	: Yes

1.2 **EQUIPMENT:**

Items	<u>Quantity / Numbers</u>
1. LED tri colour Hand Signal Lamp	2 Nos.
2. Hand Signal Flag Green	1 No with mounted stick
3. Hand Signal Flag Red	6 Nos.
4. Banner Flag Red	5 Nos.
5. Posts for exhibiting red banner flag	4 Nos.
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in each case
8. Gate lamps	2 Nos.
9. Tommy Bar	1 No.
10. Mortar Pan	1 No.
11. Spade / Fowrah	1 No.
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.

	Items	<u>Quantity / Numbers</u>
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 chin for use in case of failure of gate boom/Leaf Lock	2 No.

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 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. COMPETENCY:

Gateman working at this gate should have competency certificate applicable to perform duty at this gate issued by the sectional JE/SSE (P.Way).

3. 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.

4. ROUTING 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 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.
- 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, 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.
- v) Gateman shall also 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 padlocks for securing the gate against road traffic.
- vii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- viii) 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.
- 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 must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvii) 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 trespass passing by persons or cattle to the maximum extent.

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:-

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) **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 Permanent Way Inspector 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.

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 LC gate being closed to road traffic. It should 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 SM before permitting each train enter into the block section, shall ask gateman on the telephone by giving a PN 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 PN to the SM in assurance of gate being closed and locked against road traffic.
- iii) The SM shall not permit any train to enter the block section unless he is assured if the closure and locking of the gate by the gateman supported by exchange of PN.
- iv) When the gateman desires to open the gate for passage of road traffic he should ensure that:
 - a) He has not exchanged any PN with the station for any train or
 - b) If he has exchanged PN with the SM, the whole of the train with last vehicle indicator has passed over the LC gate and the SM has not exchanged PN with him for any other movement immediately in rear of the train or on the adjacent lines.

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

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 driver 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 gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the gate and depute his Assistant Loco Pilot to see the

condition of the gate. If the gate is closed, the Assistant Loco Pilot will give the all right signal and if the gate is not closed the Assistant Loco Pilot must close the gate and then give all right signal. In the absence of the Assistant Loco Pilot, the Loco Pilot may take the assistance of Assistant Guard / Guard.

- (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 / leaf gates, the gateman will 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) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- (iv) 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.
- (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 from his end.
- (vii) Station Master shall advise maintenance staff responsible for maintenance of the lifting barriers to rectify the same at the earliest.
- (viii) Normal working will be resumed only after maintenance staff repair 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 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 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 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) Thereafter he shall protect the gate from the other direction also.
- (vii) He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the Station Master who shall not start the train unless he has been 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 there after exhibit green hand signal if the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection / fit memo for the same.

5. Obstruction on the Track near Level Crossing:

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’ STATION WORKING RULES OF URLAM STATION
L.C. GATE AT KM 739/15-17

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1	No. of Level Crossing Gate	:	ML-421
2	Engineering or Traffic gate	:	Traffic Gate (‘A’-Class)
3	Under control of station master or permanent way inspector.	:	SSE(P)CHE
4	Location at Km.	:	KM. 739/15-17
5	At station	:	ULM
6	In between station	:	ULM & CHE
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	:	Electrical Lifting Barrier
12	Provision of gate signals at Km.	:	i) Up Line : Up Adv Starter ii) DN Line : Down Home
13	Signaling arrangement	:	Station stop signal (Dn Home Signal & Up Adv Starter.
14	Means of communication Telephone.	:	Magneto telephone with SM/ULM
15	Width of the level crossing gate	:	11.50 M
16	Type of road	:	Bitumen
17	Name of road	:	Road Authoirty
18	Metalled /Non-Metalled	:	Metalled
19	Approach road	:	Metalled
20	Width of the road	:	9.50 M
21	Angle of road crossing (in case of the SKEW gates)	:	90 ⁰
22	Road gradients (if any)	:	[a]North/East Side: Level [b]South/West Side: Level
23	Road alignment (straight/Curve)	:	[a] North/East Side : Straight [b] South/East Side : Straight
24	Provision of height gauges	:	Provide
25	Type of barriers	:	Electrical Lifting Barrier
26	Length of check rails	:	13.50 M

- 27 Road surface in between level : Level crossing gates.
- 28 Length of rumble strip/ speed : Provided breakers.
- 29 Road signs : Provided
- 30 Speed breakers indication board : Provided
- 31 TVU: : 83959 as on Oct-2018
- 32 Census next due on : Oct-2021
- 33 Demarcation for placement of : Provided detonators.
- 34 No. of gateman working : Three
- 35 Nearest Railway Medical Assistance : Rly Health Unit CHE
- 36 Nearest Private Medical Assistance : Amadavalasa available (if any)
- 37 List of equipment available (Yes/No) : Yes

1.2 **EQUIPMENT:**

<u>Items</u>	<u>Quantity / Numbers</u>
1. LED Tri colour Hand Signal Lamp	2 (5 on Quadruple / Line or twin single line)
2. Green Hand Signal Flag	One flag mounted on sticks
3. Red Hand Signal Flag	Two flags mounted on sticks
4. Red Banner Flag mounted with sticks	SL-2, DL-2, Multiple line-3
5. Spare chains with padlocks	2 chains with pad locks
6. Stop boards	2 retro reflective stop boards
7. Padlock	One
8. Detonators	Ten in a tin case.
9. Tommy Bar	1 No.
10. Bucket	1 No.
11. Whistle	1 No.
12. Wall clock	1 No
13. A small chain for use in case of	Two

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.
12. Signal failure and inspection register.

1.4 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. COMPETENCY:

Gateman working at this gate should have competency certificate applicable to perform duty at this gate issued by the sectional JE/SSE (P.Way).

3. 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.

4. ROUTING 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 chains, 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 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 padlocks for securing the gate against road traffic.
- viii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector 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.

5. 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.

6. 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:-

a) On single line section:

- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.

- ii) Then he will similarly plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
 - iii) Gateman shall then proceed to protect the gate along with detonators, fuses 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 LP 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 light up and fix the fusee to warn the LP and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.
- b) **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.
- 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 Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or through means available.

1.5 **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.

ANNEXURE – II

**WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES
INTERLOCKED WITH GATE SIGNALS, PROVIDED WITH TELEPHONE WITH
NORMAL POSITION “OPEN TO ROAD TRAFFIC”
(General Instructions are common for all types of Manned Level Crossing Gates)**

1.0 MODE OF OPERATION:

- i) Yellow and Green buttons are provided on gate panel for opening and closing of LC gate respectively.
- ii) The button 'Green' is pressed till the gate is closed and locked.
- iii) Key ^VP' is extracted from EKT-2 after the gate is closed and locked.
- iv) Yellow indication is available on gate panel for individual barriers in. gate closed position.
- v) Green indication is available for both the barriers on gate panel in gate closed and locked position.
- Vi Key '**P**' thus extracted from EKT-2 is inserted in EKT-1 and transmitted electrically to SM in conjunction with switch GS reversed to take off concerned signals.
- vii) SM transmits control-20 to GK for opening of the gate.
- viii) GK extracts key from EKT-1 inserts in. EKT-2, the push button 'Yellow' is pressed till the gate is opened.
- ix) In case of input power failure, GK should operate the gate with the help of hand generator unit keeping the manual/Auto switch in manual mode which is attached to gate panel for closing/opening of LC gate. There will be no indications on gate panel for . closing/opening of the LC gate in manual mode operation of LC gate and hence signals cannot be taken-off.
- x) In case of input power supply is available but cable/hand generator operation failed, arrangement for direct mechanical crank handling is also available for crank handling of individual pedestal barrier by extracting key from RKT-3. In this case also no indications on panel are available and hence signals cannot be taken-off.

1.4.1 Crank handle operation of Electrical lifting barriers:

Facility has been provided for closing/opening of LC gate in case of failure of power supply and Hand generator of electrically operated lifting Barrier by exchanging private number with SS with the provision of RKT-3 and crank handle with chain arrangement by the side of RKT-3 in sealed box painted in Red. Signals cannot be taken off on extraction of RKT -3 from sealed box and the gate is to be treated as non interlocked. The operation is as follows.

- a) In case of power supply failure and inoperative of Hand generator, Gateman shall extract key from RKT-3 having crank handle with chain arrangement. One key and T' type handle is also provided in sealed box.
- b) For opening the gate GK shall extract the key from RKT-3 with crank handle chain arrangement. Gateman shall also take key & 'T' type handle and proceeds to lock post at one end.
- c) Key is to be inserted and turned on Lock post. Then Gateman shall insert 'T' type handle for unlocking the Boom lock when the barrier is in locked condition.
- d) Gateman shall now proceeds to Pedestal, key inserted and turned clockwise and use crank handle for opening of Barriers of the Gate as per requirement.
- e) For closing the gate, GK shall proceed to individual pedestal after extracting the key from RKT-3 and with T-type handle, close the gate with crank handle and turned anti clock wise direction and proceeds to lock post to lock the gate with T-type handle.
- f) Same operation shall also be done for other end of the gate.
- g) Extraction of key from RKT-3 is interlocked with signals.

1.4 WORKING OF SLIDING BOOM BARRIER INCASE OF BREAKAGE OF ELECTRICAL LIFTING BARRIER AT INTERLOCKED 'A' CLASS LC GATE AT KM 739/ 15-17 (ML LC No. 421)

- a) Sliding boom barrier of West side (DN line side) will be rolled across the Road till the locking end of the barrier rests on lock post. Inserting and turning the Key-1 (Which is chained with sliding Barrier) releases the lock plunger then by sliding the lock plunger sliding barrier gets locked and releases the Key No2.

- b) Similarly sliding barrier of East side (UP line side) will be rolled across the road till the locking end of the barrier rest on lock post Inserting the key-2 (Which is released from West side barrier), releases the lock plunger then by sliding the lock plunger sliding barrier gets locked, releases the Key No3.
- c) Key No 3 inserted in sliding barrier Key (SBK) RKT No. 3 and turned along with SB GS reversed, which releases the gate signal.
- d) For opening of sliding boom the SM / URLAM transmits electrical control - 20 to extract SBK from RKT. SBK key inserted in lock No 3 releases key no.02 from UP side lock post. UP side sliding boom will be rolled across the road till the clearance of road.
- e) Key No. 2 inserted in lock No 2 at DN side sliding boom lock post, releases the lock plunger and Key No. 1. Sliding boom will be rolled across the road till clearance of road.
- f) Switch SB GS is provided in Gate lodge to put back concerned signal to danger in case of emergency.

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) If the telephone falls at the gate connected with the station at the despatching end, Station Master shall issue a caution order to the Loco Pilot of the departing train.
- ii) Station Master shall advise the Loco Pilot to whistle continuously and proceed cautiously while approaching the gate.
- iii) 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.
- 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 will also advise the gateman through Gangman / Patrolman / Loco Pilot of the first train that the telephone has become defective.
- vii) Station Master 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 shall immediately inform the Station Master on duty under exchange of private number, and ensure that lifting of 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 that 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 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 despatching 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 / fit memo for the same.

4. 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 gateman 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 / cabin, Gateman / Switchman / Cabinman / Leverman 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 caution order to the locopilot 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 despatching a train in the block section from his end.
- vii) Station Master shall advise 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 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. 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 / Switchman / Cabinman on duty on telephone, under exchange of private number.
- ii) 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.
- 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 the Loco Pilot of a departing train.
- v) 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 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) Normal working will be resumed only after S&T staff repair the key transmitter and issue reconnection / fit memo for the same.
- viii) After rectification, the Emergency key shall be replaced in the Emergency Key Box and resealed by the S&T maintainer.

7. Obstruction at the Gate:

- i) If the gate is broken by 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 / Switchman / Cabinman on duty regarding the defects / obstructions at the gate, under exchange of private number.
- iv) If there is no response from the Station Master / Switchman / Cabinman after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gateman shall then rush with detonators, fusee 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 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 despatching end, under exchange of private number, asking him not to despatch 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.

8. 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.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.

APPENDIX ‘A’ TO STATION WORKING RULES OF URLAM STATION LEVEL CROSSING GATES

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1	No. of Level Crossing Gate	:	422
2	Engineering or Traffic gate	:	ENGINEERING (C-Class)
3	Under control of station master or permanent way inspector.	:	SSE/P.WAY/CHE
4	Location at Km.	:	KM. 740.35-37 (740.793)
5	At station	:	ULM
6	In between station	:	ULM-CHE
7	BG/MG/NG	:	BG
8	Single line/double line/multiple line	:	Double line
9	Normal position	:	Closed to Road Traffic
10	Interlocked/ Non-Interlocked	:	Non-Interlocked
11	Means of Interlocking	:	-
12	Provision of gate single at Km.	:	Up Line : Nil DN Line : Nil
13	Signaling arrangement	:	----
14	Means of communication Telephone.	:	Telephone Connected with ULM Station
15	Width of the level crossing gate	:	7.50 M
16	Type of road	:	Other
17	Name of road	:	Kalavanipeta to Urlam Road
18	Metalled /Non-Metalled	:	C.C.BLOCK
19	Approach road	:	Metalled
20	Width of the road	:	5.50 M
21	Angle of road crossing (in case of the SKEW gates)	:	90 ⁰
22	Road gradients (if any)	:	[a]North/East Side: 1 in 30 [b]South/West Side: 1 in 30
23	Road alignment (straight/Curve)	:	[a] North/East Side : Stright [b] South/East Side : Stright

24	Provision of height gauges	: Provided
25	Type of barriers	: Lifting Barriers
26	Length of check rails	: 9.5 M
27	Road surface in between level crossing gates.	: Level
28	Length of rumble strip/ speed breakers.	: 5.5 M
29	Road signs	: Provided
30	Speed breakers indication board	: Provided
31	TVU:	: 8957 Dated 01/2016
32	Census next due on	: 2019
33	Demarcation for placement of detonators.	: Provided
34	No. of gateman working	: Two
35	Nearest Railway Medical Assistance	: CHE
36	Nearest Private Medical Assistance available (if any)	: ULM
37	List of equipment available (Yes/No)	: Yes

1.2 **EQUIPMENT:**

Items	<u>Quantity / Numbers</u>
1. LED Tri colour Hand Signal Lamp	2 Nos.
2. Hand Signal Flag Green	1 No with mounted stick
3. Hand Signal Flag Red	6 Nos.
4. Banner Flag Red	5 Nos.
5. Posts for exhibiting red banner flag	4 Nos.
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in each case
8. Gate lamps	2 Nos.
9. Tommy Bar	1 No.
10. Mortar Pan	1 No.
11. Spade / Fowrah	1 No.
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.

	Items	<u>Quantity / Numbers</u>
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 chin for use in case of failure of gate boom/Leaf Lock	2 No.

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 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. COMPETENCY:

Gateman working at this gate should have competency certificate applicable to perform duty at this gate issued by the sectional JE/SSE (P-WAY).

3. 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.

4. ROUTING 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 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.
- 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, 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.
- v) Gateman shall also 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 padlocks for securing the gate against road traffic.
- vii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- viii) 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.
- 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 must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvii) 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 trespass passing by persons or cattle to the maximum extent.

5. 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.

6. 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:-

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) **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 Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or through means available.

1.5 **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.

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:

Detailed mode of operation for opening and closing the level crossing gate shall be provide in the respective station Working Rules and Gate Working Instructions incorporating local operational requirements. When level crossing gate is required to be opened for passage of road traffic, the gateman will operate the winch after following the instructions given in Para2 item (i) to (v)

2. Exchange of Private Number:

- (i) The normal position of the level crossing gate being "closed to Road Traffic", it should always be in closed condition against road traffic except when, it is opened for passage of road traffic over the level crossing subject to condition prescribed below:
- ii) The Station Master before permitting each train to enter into the block section shall ask gateman on the telephone by giving private number whether, the gate is closed against road traffic for the passage of the train. The gateman only after ensuring that the gate is actually closed and locked against road traffic, shall give a private number to the Station Master in assurance of gate being closed and locked against road traffic.
- iii) The Station Master shall not permit any train to enter into the block section unless he is assured of the closure and /locking of the gate by gateman supported by a private number.
- iv) When the gateman desires to open the gate for passage of roads traffic, he should ensure that-
 - a) He has not exchanged any private number with the station as per (d)(ii) above, or
 - b) If he has exchanged private number with the Station Master, the whole of the train with the last vehicle indicator has passed over the level crossing gate and the Station Master has not exchanged private number with him for any other movement immediately in rear of that train or on adjacent line(s)

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

- v) In case the gateman is not responding on telephone or in case the telephone becomes defective or private number is not received from the gateman, the Station Master shall adhere to the procedure prescribed in SR 16.03.04 below.
- (vi) In the event of failure of telephone, if the gate is required to be opened for the

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

3. 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 driver 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 gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the gate and depute his Assistant Loco Pilot to see the condition of the gate. If the gate is closed, the Assistant Loco Pilot will give the all right signal and if the gate is not closed the Assistant Loco Pilot must close the gate and then give all right signal. In the absence of the Assistant Loco Pilot, the Loco Pilot may take the assistance of Assistant Guard / Guard.
- (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.

4. Failure of Lifting Barriers:

- (i) When the gate cannot be closed due to failure of lifting barriers / leaf gates, the gateman will 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) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- (iv) 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.
- (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 from his end.
- (vii) Station Master shall advise maintenance staff responsible for maintenance of the lifting barriers to rectify the same at the earliest.
- (viii) Normal working will be resumed only after maintenance staff repair the lifting barriers and issue reconnection / fit memo for the same.

5. Obstruction at the Gate:

- (i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately put back gate signals to ‘ON’ Position
- (ii) He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (iii) Immediately after this, the gateman shall advise the Station Master on duty, regarding 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 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) Thereafter he shall protect the gate from the other direction also.
- (vii) He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the Station Master who shall not start the train unless he has been 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 if the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection / fit memo for the same.

6. Obstruction on the Track near Level Crossing:

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.

SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION URLAM (ULM)

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

1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:

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

1.2 Description of Panel :

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

1.3 Point Buttons :

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

- 1.4** When a point is set correctly in normal, a white indication appears suggesting that the point is in normal position.
- 1.5** When a point is set correctly in Reverse, a Green indication appears suggesting that the point is in Reverse position.
- 1.6** When the points of any route have been correctly set and relevant signals taken off a Red indication appears indicating the concerned points are locked either in normal or Reverse position as the case may be.
- 1.7** When the point starts to operate to normal/reverse position, the red indication lamp as explained above, will start flashing till the concerned point housed in required position. After the point housed is required position i.e. normal/reverse, the red flashing indication extinguished and point position indication lamp (white/green) will glow for normal/reverse suggesting the point in correctly housed.

**(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP**

**(K.V.S.R.K.KISHORE)
SR.DOM/ M/ WAT**

1.8 OPERATION OF POINTS :

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

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

2. The course for non-setting of the point in the desired position has to be checked up by the Station Master on duty according to G&SR 3.68.01(c) and if there is a defect other than obstruction the point has to be considered as defective and action shall be taken for clamping and pad locking these points in the desired position by the Station Master on duty himself for all trains according to SR 3.69.03(c).

2.1 Description of Points :

Sl.	Point Button No.	Colour	Description
1.	14	Black	Cross over point between Up & Dn. main line at VSKP end.
2.	15	Black	Cross over point between Dn. main and Dn. loop line at HWH end.
3.	16	Black	Cross over point between Dn. main and common loop line at VSKP end.
4.	13	Black	Cross over point between Up and Dn. Main lines at HWH end.
5.	17	Black	Cross over point between Up main and Up loop at HWH end.
6.	18	Black	Cross over point between Up main and Up loop at VSKP end.
7.	Point group button (Normal)	Black with red dot.	Common button for normal operation of points.
8.	Point Group Button (Reverse)	Black and Red dot.	Common button for Reverse operation of points.

3. SIGNAL BUTTONS :

Sl.	Button No.	Colour	Description
1.	C1	Red with White dot	Up calling 'ON' signal for Line No.1 & 2
2.	S1	Red	Up Home Signal for Line No.1 & 2
3.	C2	Red with white dot	Dn. calling 'ON' signal for Line No.3 & 4
4.	S2	Red	Dn. Home signal for Line No.3 and 4

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/ M/ WAT

Sl.	Button No.	Colour	Description
5.	SH3	Yellow	Shunt signal below Line No.2 starter
6.	SH5	Yellow	Shunt signal below Line No.1 starter
7.	S3	Red	Up starter for Line No.2
8.	S5	Red	Up starter for Line No.1
9.	SH4	Yellow	Shunt signal below Line No.4 starter
10.	S4	Red	Dn. starter signal for Line No.4
11.	SH6	Yellow	Shunt signal below Line No.3 starter
12.	S6	Red	Dn. starter signal for Line No.2
13.	S11	Red	Up Advanced Starter
14.	S8	Red	Dn. Advanced Starter
15.	SH9	Yellow	Shunt back signal on Dn. Line No.3 & 4
16.	SH10	Yellow	Shunt back signal for Line No.1, 2, 3 & 4
17.	S33	Red	UP IB Signal of ULM Station.
18.	SH7	Yellow	Shunt signal below starter no. 7
10.	S7	Red	UP. starter signal for Line No.4

3.1 Signal Indication :

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

4. ROUTE BUTTONS :

Route buttons are provided separately on each running line on the panel for indication of route (viz UMUN, DMUN, DLUN, DL1UN, ULUN, ULN1, UAXTUN and DAXTUN). Common route buttons are also provided viz 8ATUN AND 11ATUN FOR Up and Dn starter signals respectively. For taking of Up and Dn advanced starter route buttons UAXTUN and DAXTUN are also provided.

4.1 Descriptions of Route Buttons :

Sl.	Button No.	Colour	Description
1.	UMUN	White	Common route button for Up Home signal and calling On signal for Line No.2 setting overlap on Up main.
2.	ULUN	White	Common route button for Up Home signal for LineNo.1 setting overlap on main line.
3.	ULUN1	White with Black dot	Common route button for Up Home signal and Up Calling On signal for LineNo.1 setting overlap on over run line.
4.	DMUN	White	Common route button for Dn. Home Signal and Calling On signal for Line No.3 setting overlap on Dn. main.
5.	CLUN	White	Common route button for Dn. Home Signal and Calling On signal for Line No.4 setting over lap on UP & DN. Main line.
6.	CLUN1	White with	Common route button for UP & DN. Home signal

		Black dot	and Calling On signal for Line No.4 setting over lap on over run line on DN side and sand hump on UP Side..
7.	8 ATUN	White	Common route button for Dn. Starter signal.
8.	11 ATUN	White	Common route button for Up Starter signal.
9.	Group (Trans)	White with Black dot	Common release button for crank handle and siding control.
10.	Group Released	White with Black dot	Common release button for crank handle and siding control.
11.	11AXTUN	White	Route button for Up advanced starter.
12.	DAXTUN	White	Route button for Dn advanced starter.
13.	33 UN	White	Route button for UP IB signal.

5. **Power Failure Indication/Buzzer And Power Acknowledgement :**

Normal power supply to installation is drawn from Auxiliary Transformer. In the event of failure of power supply from Auxiliary Transformer, a small red indication lamp above the power Act button will appear along with audible buzzer. The Station Master on duty shall change over the switch to local supply. In both the cases above, to stop the audible buzzer the Station Master on duty shall press the power ACK push button.

When the normal / auxiliary power supply is restored an audible buzzer again rings and the red light on the panel extinguishes. The Station Master on duty shall operate the change over switch and press the acknowledgement button to stop the audible buzzer.

5.1 **Button Failure Indication White/Button held Buzzer White with Red Dot :**

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

6. **TRACK CIRCUITS:**

Both UP & DN Main lines, UP & DN. Loop are provided with berthing track circuits as:

Up Main Line : UMT 1, UMT 2 and UMT3

Dn. Main Line: DMT 1, DMT 2 and DMT3

Common Loop Line: DLT 1, DLT 2 and DLT3

Up Loop Line : ULT 1, ULT 2 and ULT3

Point zone track circuits are also provided as 14AT, 14BT, 16AT, 16BT, 15AT, 15BT, 18BT, 13BT & 17T.

In addition there are short length track circuit in advance of Adv Starter signals and home signal in both the directions are also provided for calling on signals (seven rail length) track circuit are also provided is rear of the home signal in both directions.

At this station all the berthing lines loop line and main lines and point zones are provided with track circuits to indicate the occupation/clearance of berth/point zone portion. Starters will automatically be replaced by point zone. Track circuits. Track circuit Last Vehicle Track (LVT) and first Vehicle Track (FVT) are provided near Home and advanced starter signals for their automatic replacement release of block instruments. In addition 90 Mtrs rail length track circuits are provided near Up and Down home signal for control of calling on signal indication panel is installed in station to indicate the occupation/clearance of track circuits/Axle counter.

6.1 When a train is to be dispatched from the station yard on signals the Station Master on duty must ensure that the route between the starter signal and the block section limits demarcated by the Advance Starter is clear of any obstruction (which includes point zones track circuits) before he takes off departure signals.

6.2 Crank Handle for Emergency Operation of Points Crank :

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

6.3 On account of the doubtful operation of any track circuit by light vehicle/vehicle including self propelled vehicles such as motor trolley or a diesel shunting engine or a tower wagon, in indication of the occupancy of the track it is necessary that the Station Master on duty satisfied himself that the said vehicle/vehicles has/have cleared the point zone track circuits by observing the track indication of the tracks on either side of the cross over by positively checking of the ENTRANCE and EXIT track circuit are showing occupancy and clearance in accordance with the train movement. The station yard is provided with Multi Entry Axle Counter on Dn. line (i.e. 2AXT).

6.4 Working of Axle Counter :

Axle counter fitted at the 'Entry' and 'Exit' Point on Dn. line Steel Girder Bridge (2AXT). The function of axle counter is to count the number of axles entered at the entry point and the number of Axle entered at the Exit point in the axle counter zone. If both the counters are equal then only the Axle counter will show clear indication (i.e. green indication) provided on operating panel at the Station Master office. Again if the number of Axle counter is not equal (mismatch) at the entry and exit point then occupation indication (i.e. Red indication) will appear in the operating panel (2AXT Reset).

Resetting procedure of Axle counter:

Axle counter re-setting arrangement is provided in SM control panel. Re-set PERMISSION KEY is to be inserted for initiating reset operation, which normally remains in the custody of Station Master. Yellow indication above it confirms the permission key in counter is provided in control panel for counting each reset operation. There are three indication provided nearer to the counter R-Red-indication for Axle counter zone failure or occupation Y-yellow-indication for zone verified after personal verification. G-green-indication for clear. For piloting Dn. train, 'Dn. point in key' should insert and key in yellow indication for clear.

For piloting Dn. train 'Dn point in key' should insert and key in yellow indication appears. As soon as axle counter zone drops, Axle counter zone failure buzzer busses in control panel. Buzzer stop button to be pressed to stop the buzzer.

6.5 Axle counter re-set provided at site to be operated by nominated operating staff. After physical verification the axle counter zone before Re-setting done by Station Master he should exchange the PN with the operating staff who will verify the failure zone.

6.6 Axle counter re-set provided in the Station Master operating panel to facilitate resetting of axle counter in case of failure. Three indications i.e. Green, Yellow and Red and provided on the control panel. When axle counter shows Red that of failure mismatch in count after passing of the train from Axle counter zone, the Station Master on duty gets Red indication along with Buzzer in control panel. Buzzer muting button MFN to be pressed to stop the buzzer and he should verify through other SM/ASM the clearance of failed axle counter zone. After verification the Station Master on duty should exchange P.N. with the operating officials who has verified the site from the place where line verification button is placed.

Yellow indication appears after verifying the zone in the reset box in control panel. After ensuring verification of zone the Station Master on duty has to press and turn the reset permission key in control panel to initiate resetting and counter will increase by one number. Zone clear indication Green appears below the reset counter. But in the control panel 2 AXT zones still shows RED until the first. Dn. train pilot in and clears the zone completely. For this purpose Station Master has to press "Dn. pilot in key in" control panel before piloting the 1st train vide SR 3.69.03 as the case may be after passage of the piloted train over failure zone the key to be taken out i.e. pilot IN key. As Green indication appears in the control panel it shows that axle counter files resumes normal working for the next train. If it does not appear then the Station Master on duty should treat it as a failure of axle counter. The keys mentioned above i.e. reset and pilot keys should be kept under personal custody of Station Master on duty.

6.7 Failure of Axle Counter :

When an axle counter fails to indicate RED at the passage of train Engine/Vehicle after being run away from the Axle Counter zone then the RED indication appears (mismatching of counting/failure of axle counter) in Re-set of axle counter in this case the first train on the route must be piloted IN and allow to pass away from the Axle counter zone after re-setting procedure is accomplished.

Step-1:

After being cleared off the axle counter zone by any train/vehicle/engine if the Red indication persists in the Reset and continuous to appear, then common audible buzzer for zone failed will start buzzing the Station Master on duty has to press the acknowledgement button MFN to stop buzzer.

Step-2:

Before piloting in a train the Station Master on duty shall call for the Station Master in charge/other SM/ESM as the case may be for verifying the clearance of Axle counter

zone. The line verification box Station Master in charge/other SM/ESM shall press consequently with SM on duty should set the SM's key to IN position. Then a white indication appears above the SM's key and after verification of the zone Red indication will extinguish.

Step-3 :

The Station Master on duty will insert the reset key press and turn and subsequently release the reset key. A Yellow indication and Green indication appears in the reset which indicates that the resetting process has been properly initiated. The counter provided in the reset will increase in number in count. The number in the veeder counter shall be recorded in the Train Signal Register/Station Master Diary and signed by both SM on duty and SM in charge. The failure must be intimated to ESM and sectional SSE/SE(Sig) for rectification.

Step-4:

When ever the axle counter zone is failed, the Station Master on duty shall pilot in the first train as the case may be over such failed axle counter zone vide SR 3.69.63 or 3.70.1 and in such piloting the Station Master on duty shall insert the pilot IN key as the case may be in the axle counter reset on the operating panel and turn the key. After piloting of the train, pilot key should be taken out, if the Green indication continues to appear the Station Master should resume normal working.

6.8 Important Note :

When performing shunting operation 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 for train movement in reverse position it required clamping and pad locking the points. The official responsible for shunting operation must clamp the points at both the ends before permitting any movement.

All the sectional push trolleys should have FRP trolley wheels, so that when any movement of trolley occurs over the axle counter zone there will be no counting in the axle counter.

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/ M/ WAT

Station Master on duty shall very particularly enquire whether that all the sectional push trolleys have FRP trolley wheels other wise any wrong movement of sectional push trolleys with Non-FRP trolley wheels other wise any wrong movement of sectional push trolleys with Non-FRP trolley wheels, Station Master has reset the above axle counter after personal verification of the line on which trolley is received.

6.9 WORKING OF LVCD AXLE COUNTERS:

Digital Axle Counters have been provided between ULM-CHE and ULM-TIU on both Up and Dn lines to indicate the block section is clear or occupied to serve the purpose of L.V.V.

Reset boxes are provided in the SM's room for each section separately for UP and DN lines and various indications are provided on Reset boxes. The portion of the block section whether cleared or occupied are reflected in the reset box, which shows 'GREEN' »when particular Block Section is clear and 'RED' when occupied when ever a train enters in to the block section. 'Block Section Clear' indication "GREEN" for the particular block section disappears and 'RED' indication appears.

After complete arrival of the train the 'Red' indication will disappear and 'GREEN' indication will appear on reset box. If after the complete arrival of the train "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 to be followed: These Axle Counters are interlocked with the respective block instrument for that section. If the Axle Counter fails. Advanced Starter Signal shall not come to 'OFF' and the concerned instrument shall remain locked in TOL portion.

7. STATION MASTER'S KEY :

The panel is also fitted with Station Master's lock up key to prevent unauthorized operation of this panel but with the arrangement to put back the signal to the ON position in the case of emergency without altering the route when the panel is locked position. The key of the panel must be kept in the personal custody of SM on duty.

8. EMERGENCY OPERATIONS :

The following are the instructions for Emergency operations.

8.1 Cancellation Button or Veeder Counter :

For the purpose of the emergencies operations there is an emergency Route cancellation and also there is a veeder counter for counting emergency operations involving the concurrent operation of the emergency route cancellation button. The Station Master on duty must press the emergency route button along with concerned signal button for which emergency route release is required. An yellow indication will appear below the signal indicating that the timer has started operation and after lapse of IRO seconds. The desired route will be released provided all other conditions are favourable for the route release.

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

8.3 Cancellation of Unintended Locking of Points :

When ever there is un intended locking of any points (indicated by RED indication lamp near the concerned point) such a locking has to be released (after the concerned signal are in the normal position) by concurrently pressing the Emergency Group cancellation button (provided at the counter of the panel) and the concerned signal button provided the track circuits are clear and are in working condition. This operation is counted on the veeder counter/counter as already pointed out.

8.4 Cancellation of Locking of Route & Points after the Signal has been Put Back to 'On'.

OR

The signal has gone back to on either after the movement of the train is cancelled.

OR

The train has come to a stop out side the Stop Signal.

- a) In case the route is set and the signal is taken off and it is warranted that the signal has to be put back to ON and cancel the route.
- b) Firstly the signal has to be put back to the ON position.
- c) Emergency route cancellation operation must be initiated as detailed in para 8.1.

8.5 Emergency Operations :

- a) Cancellation of the locking of points not released after the passage of the train for any reason. If the locking of the route does not get released for one reason on the other after passage of the train, it is necessary to take recourse to the following emergency operation.
- b) Firstly it must be ensured that the signal and signal buttons are in the normal position.
- c) Operation as details in para 8.1 to be followed.

9. NUMBERING OF POINTS :

- a) No.14 crossover point between Up Main Line and Dn. Main Line VSKP end.
- b) No.15 crossover point between Dn. Main Line and Dn. Loop Line No.4 towards HWH end.
- c) No.16 crossover point between Dn. Main Line, Common Loop Line, Line No.4 and derailing switch is ON.
- d) No.18 crossover point between Up Main and Up loop line.
- e) No.13 crossover point between Dn. Main and Up main towards HWH end.
- f) No.17 crossover point between Up Main and Up loop line No.1 and derailing switch towards HWH end.

10. EMERGENCY OPERATION OF POINTS (IN CASE OF POINT ZONE TRACK CIRCUIT FAILURE) :

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

11. INTER LOCKING OF SIGNALS :

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

12. LOCKING OF RELAY ROOM :

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/ M/ WAT

- 12.1** Relay room at this station is provided with double locks (Two independent locks) as necessary vide OM 1.14 one key shall be kept with the Signal Maintainer of the section and the other with Station Master on duty. The relay room cannot be opened unless both keys are used.
- 12.2** The Station Master shall ensure that the Relay Room key is given to S&T maintenance staff under clear signature as and when required for their normal maintenance and special works and that the key should be returned by the S&T staff immediately after completion of their work and the documentation should be made in the Relay Room Key Register maintained at the Station according to SR 3.51.05 and OM 1.14.
- 13. MAINTENANCE OF S&T INSTALLATION AND ADHERENCE TO MAINTENANCE SCHEDULES :**
- 13.1** The regular maintenance of the S&T installation and adherence to the schedules of maintenance as also to the mandatory schedules of testing of Points, Track Circuits, Signals, Ground Frames, Level Crossing Gates, the associated inter locking apparatus i.e. Cables and finally the interlocking functional tests is a must for the safe and satisfactory working these installations at the station.
- 13.2** The tests, checks and re-placement etc., including overhauling shall confirm to the Schedules of the maintenance as indicated in the Signal Engineering Manual as also in the current and extent instructions/Circulars on the subject.
- 14. PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL INTERLOCKING INSTALLATIONS.**
- 14.1** Whenever there is failure of Points, Track Circuits, Signals, Axle-counters or any other interlocking gear at the Station, the failure report should be communicated by the Station Master on duty through a Memo to the sectional maintainer and the Signal Inspector of the section along with others as per G&SR 3.51.04 and 3.68.04 and document all such transactions.
- 14.2 Inspection of points before declaring them defective :**
- However, before declaring as Signal 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 Switches on the Panel in terms of SR 3.68.04(c).
- 14.3 Rectification and check before resuming normal working :**
- It is only after receipt of this information the sectional maintainer (Electrical or Mechanical) shall attend to the failure after giving a disconnection Memo. After rectification of the fault, the sectional maintainer shall give a re-connection Memo Detailing the rectification and it is only after the Station Master on duty has personally checked this defective gear and is satisfied that it is in good and proper working order. He shall resume the normal working of the said defective gear in terms of SR 3.68.01(c) and (d).

15. PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORKS :

However any normal maintenance or special works for heavy renewals etc., are involved, these works should be pre-planned by the Signal and Telecom filed staff and the inspector of the section should give to the Station Master in writing "Advance Intimation" about this planned work in terms of G&SR 15.08.01.

16. EMERGENCIES :

Not with standing any thing contained in the afore-said Para Nos. 14.1, 14.2 and 14.3 when a Gear is found to be defective and un-safe for passage of trains, the Signal & Telecom staff must at once suspend the working of that gear and the associated installations and issue a "Suspense Memo" explaining the seriousness of the defect or Damage to the interlocking installation to the Station Master and take Station Masters acknowledgement. After this, the usual practice of exchange of disconnection memo and re-connection Memo can follow and the Station Master must promptly act on such messages and take adequate precautions treating the S&T installation as defective and pass trains over the effected interlocking gears according to extent instructions as contained in GR 3.77 and SR thereon.

17. SIGNAL LIGHTS :

The SM onduty at every shift must also ensure from Panel Board that all the Signal lights are Burning properly and brightly. This fact must be recorded in the diary under a separate entry and confirm to the section controller onduty as per the instructions contained in Divisional Safety Circular No.82/82, Dated 2.5.82 and GR 3.49(3).

18. CORRECTING TIME IN THE STATION CLOCKS :

The Station Master shall set the time on his Clock according to the time Signal given by the Section Controller onduty at 16.00 hours every day according to G&SR 4.01.01 and 4.01.02.

19. NORMAL POWER SUPPLY :

The Station works on 230 Volts single phase power supply. The normal power supply is from the Auxiliary transformer connected to OHE. Traction Distribution.

19.1 Standby Power Supply :

Local power supply is available at the Station as stand by with changeover switch arrangement.

19.2 Normal power supply-maintenance of power supply, power failure and reporting such failures :

Normal power supply to the Signaling and interlocking installations at this station is drawn from the Traction power supply sources (at 230-V-50HZ). The Station Master must however, maintain the record of the power failure of the Traction supply and he must promptly report the failure immediately to the Section Controller and to the concerned Electrical and S&T maintenance staff.

20. WORKING OF POINTS – POSITION OF POINTS :

The normal position of all points shown in the Station Working Rule Diagram No.SI/WRD 21113 'H' and also in the mimic indication panel provided in the Station Masters office.

20.1 All cross over points and independent points on the running lines are worked by Electric Point Machines. The point machines have in-built locking and detection arrangements. These points are remotely controlled from the panel situated in the Station Master office.

20.2 The operation and indication on the points and their route locking over them is already explained in earlier parts of Appendix-B.

21. PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF OR 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 can not 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 reverted 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.

**(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP**

**(K.V.S.R.K.KISHORE)
SR.DOM/ M/ WAT**

- 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 onduty and after making necessary entries in the emergency Crank Handle Register, the Station Master onduty will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the points will be treated as defective till the Emergency Crank Handle is returned back to Station Master onduty.
- 21.7** Before parting with the Emergency Crank Handle either for attending failure or for Maintenance work by Signal maintenance Officials, the Station Master onduty 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 onduty 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 onduty 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 onduty wherein the particulars of usage of the Emergency Crank Handle must be recorded :
- 01) Date
 - 02) Point Number which failed or required to be tested.
 - 03) Time failure
 - 04) Disconnection memo number received from S&T staff
 - 05) Signature of SM/Signal Official to whom the Emergency Crank Handle is handed over.
 - 06) Time Emergency Crank Bandle is sent out.
 - 07) Individual Point numbers, and line number nominated for admission of dispatch for which Points are set, Clamped and Padlocked.
 - 08) Train Number to be admitted or dispatched.
 - 09) Signature of the Station Master onduty 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 onduty.
 - 12) Signature and Designation of the Signal Official who rectified the fault.

22. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS :

22.1 Interlocking with home signals :

**(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP**

**(K.V.S.R.K.KISHORE)
SR.DOM/ M/ WAT**

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

22.2 The UP and DOWN Advanced Starter Signals are Electrically interlocked with respective DLM so that these signals can not be taken OFF until the Handle of the concerned Block Instrument is in TRAIN GOING TO position.

22.3 Suspension of last stop signals :

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

23.0 BURNING OF SIGNAL LIGHTS :

The Station Master on duty shall not grant LINE CLEAR unless he has ensured that the Lamps of fixed Signals which apply to the train are burning brightly. If the Signal Lights cannot be kept burning the Station Master on duty shall before giving LINE CLEAR initiate action in accordance with the procedure prescribed in GR 3.68 to 3.72 and relevant SR's vide GR 3.49(A).

24.0 TELECOMMUNICATIONS:

The details of telecommunication facilities for train working are as follows.

- 1) Telephone attached to SGE Type lock and block instrument connected to the adjacent stations on either side.
- 2) Magneto phone is provided between Station and to the LC gates ML-419, ML-420, ML-421 & ML-422
- 3) Electric communication equipment (Magneto Phone) is provided for sections ULM-CHE and ULM-TIU.
- 4) The station is connected to VSKP-PSA train control phone.
- 5) The station is connected to VSKP-PSA traction power control circuit.
- 6) VHF set connecting adjacent stations.
- 7) Auto telephone connecting Divisional HQ & station between VSKP – PSA.
- 8) BSNL Auto Phone
- 9) Communication is provided between SM's office and crank handle location at both ends.
- 10) Magneto phone is provided on UP IB post of

25.0 POWER FAILURE INDICATION / BUZZER AND POWER ACKNOWLEDGEMENT

(A) POWER SUPPLY ARRANGEMENT FOR THE SIGNALLING INSTALLATION

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/ M/ WAT

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

- i) Normally supply from UP AT/DN AT connected to OHE Traction distribution [230 V 50 Hz].
- ii) Stand by supply from Andhra Pradesh State Electricity Board (APSEB) [Single phase 230V-50Hz].
- iii) Normal power supply [Single phase 230V-50Hz] to the Signalling & Interlocking installation at the station is drawn from the traction power sources. Whenever traction power supply fails SS/Dy.SS on duty shall operate the rotary change over switch provided in the CLS power panel at SM's room connecting the power supply from the healthy sources to the installation.

The SS/Dy.SS 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 Electrical Staff and S&T maintenance staff.

- i) Auto change over switch is provided in the SM's office with the three power supplies viz UP AT, DN AT and local power supply for changing the switch to the required supply position. The availability of the supply is indicated by luminous indicator above the circuit breaker for each supply.
- ii) Normally the switch will be kept towards UP AT or DN AT position. Whenever the power block is to be given on the line, on duty SS/Dy.SS must ascertain the power is available on the other AT and change over the switch to desired position e.g 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, on duty SS/Dy.SS has to check whether the Miniature Circuit Breaker has tripped. (Three Miniature Circuit Breakers are provided in the changeover switch *board, one for each* supply and *their* normal position is UP and when tripped, it goes to DN). In case of failure of both AT supplies without any power block, the local supplies shall be utilized by operating the change over switch. If the Miniature Circuit Breaker is tripping, even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEEE/GEN and CTFO/GEN for prompt rectification.
- iv) Whenever there is a failure of power supply in one AT, the on duty SS/Dy.SS shall take prompt action to inform to all concerned for the rectification, The on duty

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/ M/ WAT

SS/Dy.SS himself, during his daily checks, shall test the availability of power supplies on both AT's and make entry in station dairy duly initiating action for rectification of failure, if any.

(B) WORKING OF INTEGRATED POWER SUPPLY TIPS], INDICATIONS & ACTION TO BE TAKEN BY SS/DY.SS ON DUTY

- i) Power supply to the signalling installation is fed through IPS installed in the S&T power supply room. The IPS is normally fed through UP AT/DN AT traction power selected by SS/Dy.SS on duty. Standby power supply is through APSEB 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.
- ii) The IPS system is connected with Battery as a back-up power source for safe working during transition of power and in case NO 230v AC supply is available due to any reason.
- iii) In the event of failure of all the sources of 230V, 50 Hz AC supply, the signalling system shall be fed by power generated by back-up battery Bank connected to IPS for a limited period of 08 to 10 hours. The health of battery bank is monitored through one IPS monitoring Panel provided in the SM's room which shall be display the voltage 110V DC [Battery bank provided as back-up source of power supply]. Depending upon the health of the Battery Bank and the system, the following indication/alarm will appear on the Remote Monitoring Panel, their implications and action to be taken by SS/Dy.SS on duty is tabulated below.

SN	Instruc- tion	Health Battery Bank/Equipment.	Visual Indication	Audio Indication	Action to be taken by SS/Dy. SS on duty
A	-	50% DOD	Red	Alarm	Alarm shall be acknowledged by SM on duty.
B	-	60% DOD	Red	Alarm	-do-
C	System shutdown	70% DOD	Red	Alarm	Signal feed cut off and all DC-DC converters to Work. Audio alarm will continue till power Supply is restored.
D	Call S&T staff.	Equipment fault.	Red,	Alarm	Failure of any module will give the alarm in ASM's panel. Alarm shall be

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/ M/ WAT

					acknowledged by SM on duty for audio cut off.
--	--	--	--	--	---

On duty SS/Dy.SS 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 or when both traction power and local power failed, the SS/Dy.SS 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 malfunctioning of the remote monitoring panel SS/Dy.SS on duty shall inform the same to concerned S&T staff immediately.

NOTE: In case of failure of all AC supply sources IPS Battery Bank can provide power supply, before system shut down indication of IPS.

26 RESETTING OF LVCD AXLE COUNTER (DIGITAL):

After complete arrival of train, if the Last vehicle axle counter of the section does not clear or Last vehicle Axle counter section free indication (Green) does not appear in the panel, The receiving station SM shall apprise the sending station SM through telephone for resetting giving details of last train that has arrived complete at his station and the block section is clear.

The receiving station shall inform the sending station as to whether the last train that entered into the section has arrived or not. And, if arrived fully shall so intimate authenticated by exchanging Private number with the sending station.

The status of the section LVCD i.e. Clear (GREEN), occupied (RED), preparatory reset (GREEN) and power on indications (WHITE) are provided in the reset box.

The procedure to be followed for re-setting by both of sending end and receiving end individually is as follows:-

- a) On being advised by SM of ULM Station, SM of CHE/TIU Station inserts the key in the Reset Box, turns right and presses both the key and the Push Button (Red) simultaneously with the SM of ULM. The Counter on the Reset Box at ULM Station and CHE/TIU Station registers the next higher number and after five seconds miniature green Preparatory Reset indication appears on the Reset Box both at ULM and CHE/TIU Station. The step by step procedure shall be followed as given in “b” to “i”.
- b) SM of ULM Station and CHE/TIU Station shall then Insert SM’s LV reset key, and turn right.
- c) Press LV reset button provided on the panel.
- d) Release SM’s LV reset key and reset button.
- e) Turn left the SM’s LV reset key and remove it.
- f) The system obtains preparatory reset state and preparatory reset indication (Green) glows on the panel. The counter reading increases by one count after a gap of 5 seconds approximately.
- g) The counter reading should be recorded.

(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM/ M/ WAT

- h) One train is to be piloted in the section to make the system normal.
- i) The SM on duty shall record it in the Train Signal Register indicating the resetting operations in detail i.e. train number, time, Private Number exchanged with SM of sending station and giving reasons for the resetting operation.
- j) If the axle counters functioning properly now, then Block Section cleared indication 'G' will appear on the panel and the concerned Block working will be normalized.
- k) If the LV axle counter section indication does not appear 'Green' and continues to show 'RED' indication, the concerned Block section shall be suspended and failure intimation to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

APPENDIX 'C' TO STATION WORKING RULES OF URLAM STATION

ANTI COLLISION DEVICE [[RAKSHA KAVACH]

Not applicable to this station

(P.S.BHATTACHARYYA)
DY.CSTE/P VSKP

(K.V.S.R.K.KISHORE)
SR. DOM/M/WAT

APPENDIX-‘D’ TO STATION WORKING RULES OF URLAM STATION

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

1.0 STATION SUPERINTENDENT:

He is restored for 8 hrs of train passing duties. He is responsible for the general and satisfactory working of the station and for the efficient discharge of duties by staff working under him. He shall keep all Rulebooks, Registers, Files and documents neat and up to date. 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. 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 XXII. 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). He shall promptly attend to accidents and report them. He shall supervise the work of safe working staff and conduct night inspections and report lapses of staff working under him.

2.0 STATION MASTER:

He is responsible for trains passing during his shift. He shall promptly bring to the notice of Dy.Station Superintendent all irregularities and accidents in course of his shift duties. During the absence of Dy.SS, the duties of the Station Manager will devolve on him. He shall follow SR 3.68.01© and (d) SR 14.07.1 and OM Chapter XXII. His special attention is drawn to Chapter-2 of G&SR 1976 and GR 5.01 to 5.08 with relevant SRs. As an assistant to Dy.SS, he shall carry out the instructions given to him by the Dy.Station Superintendent.

3.0 TRAFFIC POINTS MAN :

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

4.0 SAFAIWALA

He shall attend to the sanitation of the Railway premises including SS/Dy.SS's Office, platforms, Staff Quarters, Latrines and cleaning of drainage's etc. He shall carry out any other work entrusted to him by the Station Master on duty.

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

APPENDIX 'E' TO STATION WORKING RULES OF URLAM STATION

ESSENTIAL EQUIPMENT

A list of essential equipment's is given below which shall be maintained in good Working order as per OM 2015, Para no. 11.15.

Sl. No	Description	Station
1.	Detonators	20
2.	LED based tri colour flashing torch	3(1 Spare)
3.	Hand Signal Flags	3(1 Spare)
4.	Clamps with Padlocks	8
5.	Safety chains with Pad locks	6
6.	Fire & Sand buckets	5
7.	Minimax Fire Extinguishers DCPT	2
8.	Line blocking collars	6
9.	Motor trolley on line board	2
10.	Iron Skids	4
11.	Block suspension board	2

(P.S.BHATTACHARYYA)
DY.CSTE /P/VSKP

(K.V.S.R.K.KISHORE)
SR.DOM /M/ WAT

APPENDIX 'F' TO STATION WORKING RULES OF URLAM STATION

RULES OF WORKING OF DK STATION, HALTS, IBH, AND OUTLYING SIDINGS

1. RULES FOR WORKING INTERMEDIATE BLOCK SIGNALLING BETWEEN ULM - CHE:

(i) The block section between has been split into two block sections by providing Intermediate block stop signals at km: 743.000 (controlled by CHE station) for DN line and on UP line at km: 743.361 (controlled by ULM 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 ULM-CHE on UP and DN lines is controlled by the provision of DLBI (SGE type) and are provided at CHE and at ULM stations. The DN advanced starter signal no. 16 of CHE and UP advanced starter signal no. 11 of ULM 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 DLBIs at the receiving stations.

(b) Trains between intermediate block signal to respective home signal of station in advance in both sides are worked by means of SGE type lock and block instruments vide G & SR 4.09, 5.07, 14.01 to 14.14 and chapter V of BWM.

(c) Last stop signal to the intermediate block stop signal in both sides are controlled by Electronic axle counter and are worked under absolute block system in terms of G & SR 14.01, 14.13. Indications on panel are provided at ULM station.

2. INDICATIONS PROVIDED ON PANEL FOR I.B. SECTION:

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

2.1 SECTION ULM-CHE (UP DIRECTION):

Sl. No	Signal Aspect [S-11]	IB Section Indication [11 AXT]	IB Home Aspect [S-33]	Block Section Indication	Remarks.
1	Green	While Illuminated	-	-	Advance starter No: 11 is taken off to dispatch a train up to IB Home.
2	Red	Red	-	-	IB Section is occupied.
3	-	-	Green	While	IB Home taken off for

				illuminated .	train up to home of CHE.
4	-	-	Red	Red	Block section is occupied or IB Home passed at danger.

2.2 SECTION ULM-CHE (DN DIRECTION):

Sl. No	Signal Aspect [S-16]	IB Section Indication [16 AXT]	IB Home Aspect [S-30]	Block Section Indication	Remarks.
1	Green.	While Illuminated.	-	-	Advance starter No: 16 is taken off to dispatch a train up to IB Home.
2	Red.	Red.	-	-	IB section occupied.
3	-	-	Green	While illuminated.	IB Home taken off for train up to home of ULM.
4	-	-	Red	Red	Block section is occupied or IB Home passed at danger.

2.5 Buzzer/Bell:-

One audio buzzer is provided in the SM room at ULM to detect Train Entering section for outgoing trains. After train passes the intermediate block stop signal, the buzzer/bell will start ringing at ULM station. On hearing the buzzer/bell the Dy. 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.

Train Run-Away buzzer:

When a train passes IB signal at ON position SM/ULM of dispatching station receives the train run away buzzer and displays flashing indication on the VDU. The SM/ ULM

by acknowledging the train run away button, the buzzer stops and the indication remains steady and after train passes IB signal and beyond 400mts the indication also disappears.

b) 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 Dy. SS/SM on duty at the dispatching station through exchange of private number with the Dy. 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 ULM-CHE shall be shall be treated as single section.

c) 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 or last stop signal is restored to normal.

d) 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 Dy. 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 on the panel at ULM station and on VDU at CHE station. 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. The Re-setting icon and permission granting icon on the VDU at CHE should normally be kept sealed by the S&T staff and Dy.SS/SM will inform the Maintainer for resealing the same whenever the seal has been broken.

iv] The Dy.SS/SM on duty at ULM station shall maintain a separate register for use of resetting at IB Axle Counters wherein every operation of the resetting button shall be recorded giving details of date of use, train, number, time, number registered in the counter on panel 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:

2.4 SECTION CHE-ULM ON DN LINE:

	DISPATCHING STATION [CHE]		RECEIVING STATION [ULM]
1	Dy.SS/SM on duty shall call the attention of SS/Dy.SS of ULM station through Telephone for re-setting I.B. Axle counter zone giving details of last train left the station into the section.	1	SS/Dy. SS on duty at ULM after verifying that the said dispatched train arrives fully, shall exchange private number with Dy.SS/SM on duty at CHE and gives permission to re-set by clicking the 'Permission Granting' button provided on the re-set panel.
2	On getting re-set permission on VDU Dy. SS/SM on duty shall acknowledge by clicking on 'Permission received from ULM' acknowledgement button icon. For each such operation the reset counter provided in VDU shall increase by one digit. Dy. SS/SM on duty shall make an entry of changed Reset counter number in re-setting register.	2	SS/Dy. SS on duty at ULM shall continue to press the 'Permission Granting' button.
3	Dy. 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/Dy. SS ULM shall also press 'Re-set' button provided on re-set panel at ULM 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/Dy. SS on duty at ULM shall record in his train register the re-setting operation giving train number, time and private number exchanged with the Dy. SS/SM of CHE station giving reasons for the re-setting operation.

2.5 SECTION ULM-CHE ON UP INE:

	DISPATCHING STATION [ULM]		RECEIVING STATION [CHE]
--	----------------------------------	--	--------------------------------

1	SS/Dy. SS on duty shall call the attention of SS/Dy. SS of CHE station through Telephone for re-setting I.B. Axle counter zone giving details of last train left the station into the section.	1	Dy. SS/SM on duty at CHE after verifying that the said dispatched train arrives fully, shall exchange private number with SS/Dy. SS on duty at ULM and gives permission to re-set by clicking the 'Permission Grant' push button [To ULM] provided on the VDU.
2	On getting re-set permission on re-set Panel SS/Dy. SS on duty shall acknowledge by pressing 'Permission received from CHE' acknowledgement button. For each such operation the reset counter provided in Operating Panel shall increase by one digit. SS/Dy. SS on duty shall make an entry of changed Reset counter number in re-setting register.	2	Dy. SS/SM on duty at CHE shall continue to click the 'Permission Granting' button'.
3	SS/Dy. SS on duty then shall re-set the I.B. Axle counter by turning 'UP Re-set Key' and press the 'Re-set button' on the re-set panel, which will reset the Axle Counter.	3	Dy. SS/SM CHE shall also click 'Re-set' button provided on VDU at CHE 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 re-set panel.	4	The /Dy. SS/SM on duty at CHE shall record in his train register the re-setting operation giving train number, time and private number exchanged with the SS/Dy. SS of ULM station giving reasons for the re-setting operation.

2.6 DISPATCH OF TRAINS:

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

a) From ULM towards CHE.

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.

b) ULM TO IBS ON UP AND DOWN LINES:

The Dy. 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 panel 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.

c) IBS SIGNAL TO THE STATION IN ADVANCE:

The Dy. SS/SM on duty shall obtain line clear over lock & Block instruments from the station in advance to dispatch a train pass the IBS signal at the respective ends and shall take off the IBS signal by means of taking of signal No.33 of ULM.

After the train passes the intermediate Block Stop signal of ULM a buzzer will ring in the panel. On hearing the buzzer/bell the Dy. 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 cabin 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 ULM into the Block section between ULM 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 Cabin Master in advance indicating the occurrence and the number of the train. On getting the information from the Station Master/CHE, the Dy. SS/SM on duty at ULM 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 Dy. SS/SM's diary book of both the Stations/Cabins.

d)(i) Dispatch of trains towards CHE in case of failure of the Down/UP Advanced Starter signal at ULM Station due to failure of "Axle Counter" device or otherwise. If the failure of the Advanced starter of CHE due to the failure of axle counting device or the indication lamp (repeated by indication lamp) showing 'Red' light either due to power failure or due to any other causes, the re-setting "Push Button" provided with counter at the Dy. SS/SM's office for resorting the normal function of the signal, should be operated accordingly to the following instruction whenever the Advance

starter signal of ULM is found defective by the Station Master and the following procedure shall be adopted.

On receipt of this information, the Dy. SS/SM on duty after ensuring that all trains which had left his Block Station had arrived complete and intact at **CHE** station (by exchange Private Number with the Dy. SS/SM **ULM** confirming this), shall press 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 Dy. SS/SM's office at **ULM**. The use of this resetting button is registered on the counter and the Dy. 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 button, 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 Dy. 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 Dy. SS/SM concerned and ask him to reset the axle counter by pressing the reset push button. Where after the Dy. SS/SM on duty, after ensuring that all the trains which had left his Block Station had arrived complete and intact at **CHE** (by exchanging of P.N with **SS/DY SS CHE** confirming this) shall press the resetting button provided in the panel at **ULM** station and resume the normal working.

e) DESPATCH OF TRAINS IN CASE OF FAILURE OF INTERMEDIATE BLOCK STOP SIGNAL:

[a]When a driver 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].

[b]If the Dy. SS/SM of ULM station, on being contacted over Telephone by the driver, finds that the signal is defective, he shall, after obtaining "Line Clear" for the train from the station in advance, authorized the driver on the telephone to pass intermediate Block Signal at "ON" and enter the block section ahead. He shall give Driver 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).

[c]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 Driver 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 ck station ahead, the Loco pilot shall report the failure of the signal to the Dy. SS/SM, Following train shall not be allowed to leave **ULM** unless the complete arrival of the receiving train is certified by the SM on duty at **CHE** 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.

[d]However, if the DY.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 **CHE** station (by exchanging Private Number with SM- **CHE**) 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 DY.SS/SM should record this usage giving details of the occasion with timings in the Counter/register and also train registers.

(e) INDICATION CUM RESETTING PROVISION IN THE PANEL AT ULM:

The Panel is provided for following light indications:

- (i) 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.
- (ii) 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.
- (iii) Two red indications ahead of the IBS Signal, which are lit if the train passes the said signal in "ON" Position. These indications continue to glow till such time the lock and block working is resumed through emergence re-setting feature.
- (iv) 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.
- (v) 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.

f) RE SETTING PROVISION IN THE PANEL AT ULM STATION:

For resetting of I.B. Axle counter please refer Para No: 5.2 of Appendix 'B' of this SWR

g) SPECIAL INSTRUCTION IN CASE OF A TRAIN PASSING IBH AT 'ON' POSITION:

- i] In case train run away indication appears the Dy.SS/SM/Cabin Master receiving Station shall not turn the block instrument handle to line clear position and Dy.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 station and train entering section indication appears at the receiving station, 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. Under such circumstances the Dy.SS/SM in the receiving station shall not turn the Block instrument to Line Clear position and Dy.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 button to be pressed for the runaway train by break opening the seal only after verifying that the last vehicle of the runaway train has arrived in -tact and ensured by exchange of private number with the Dy.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 Dy.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 Dy.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 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 commutator 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/ASM 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 Dy.SS/SM/ASM 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 Dy.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 Dy. SS/SM of the block station in advance shall communicate the same to the Dy. 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 Dy. SS/SM of the dispatching station and the Dy. SS/SM of the receiving station shall operate the ‘Resetting’ and ‘reset’ panel respectively in conjunction with the Dy. SS/SM of the Block Station in advance shall then take steps or authorized Dy. SS/SM of the receiving station supported by a Private Number to normalize the block instrument.

ii] Record of Private Number exchange and the number shown in the counters shall be maintained by the concerning Dy. SS/SM in the train signal (Cum log) Register/Trine Log Register.

It is to be noted that in terms of GR3.75 whenever intermediate block stop; signal is at ‘on’ the Loco pilot must stop his train in rear of the signal and contact the Dy.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 DY 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.

iii] 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.

2.7 RUNNING OF MOTOR TROLLEYS ON IBS ZONE:

- i) While allowing motor trolley/4 wheeler tower wagon/material trolley etc., entire section between **ULM-CHE** 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 Moto 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.

2.8 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 DY.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.

3. NORMAL POWER SUPPLY TO IBS GOOMTY:

Normal power supply to the Signaling 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.

EAST COAST RAILWAY

WALTAIR DIVISION

APPENDIX 'G'

URLAM STATION

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS

**(P.S.BHATTACHARYYA)
DY.CSTE / P/VSKP**

**(K.V.S.R.K.KISHORE)
SR.DOM / M/WAT**

EAST COAST RAILWAY
WALTAIR DIVISION

APPENDIX- 'G'

TO
SWR
OF

URLAM STATION

STATION WORKING RULES FOR 25 KV A.C ELECTRIC TRACTIONURLAM STATION YARD1. 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. TRDWAT/SWR/239/12 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 GR 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-136	739/7	2	SM-137	738/2

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 of 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. F I R E : 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.

DOM(G)/WAT

SR.DEE/TRD/WAT

ANNEXURE TO APPENDIX-G

STATION WORKING RULES OF URLAM FOR 25 KV AC TRACTION

THESE RULES SHALL BE READ IN CONJUNCTION WITH THE STATION WORKING RULES IN FORCE

S. No.	Description	Steps of precautions to be taken during power block in respect of Electric locos hauling trains or running light or standing with pantograph raised		Sequence of Switching operation for granting power block	Sequence of switching operation for restoring power
		Longitudinal Protection	Transverse protection		
1	2	3	4	5	6
1	<u>A -SECTOR</u> 1) Sector between Ponduru/FS – Urlam/SP on UP & DN lines (E/S 10301,10303,10501,10503,10505.and 10202,10602,10604& 10606.)	1) Line clear shall not be obtained from Srikakulam-road for UP trains and UP despatch signals shall be kept at 'ON'. 2) Line clear shall not be granted to Srikakulam-Road for DN trains and DN reception signals shall be kept at 'ON'.	NIL	1) Ensure no electrical loco is stabling with its panto raised position in the section 2) Ensure BM Nos109 & 110 are in open position at Urlam-SP. 3) Open BM Nos.102 &103 at Ponduru/FS.	1)Close BM -.102 & 103 at Ponduru/FS.
2	2) Sector Between Naupada-FS to Urlam-SP on UP & DN lines (E/s.11802,11804,11602,11604,11402,11404 and 11901,11903,11701,11703,11301,&11303.)	1) Movement of Electric trains / locos shall not be allowed into section Urlam-Srikakulam-Road and Urlam -Tlaru on both UP & DN lines 2) Necessary UP & DN dispatch and reception signals shall be kept at 'ON'.	NIL	1) Ensure no electrical 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 Nos.118 & 119 at Naupada-FS.	1) Close BM -118 & 119 at Naupada/FS.

DOM/ WATSR.DEE/TRD/WAT

1	2	3	4	5	6
3	<u>B-SUB SECTORS</u> 1) Sub Sector on DN line between Urlam-SP to Tilaru-SSP (E/S 11402 and 11404).	1) Line Clear shall not be granted to Srikakulam-Road for trains on DN line and concerned reception signals shall be kept at 'ON'. 2) Line Clear shall not be obtained from Tilaru for trains on DN line and concerned dispatch signals shall be kept at 'ON'. 3) No movement on Cross over 13 A&B & 14 A&B is allowed.	1) Point No.13 A&B and 14 A&B shall be kept normal.	1) Ensure no electrical loco is stabling with its panto raised position in the section. 2) Ensure BM -110 at Urlam/SP is in open condition. 3) Open BM-111 at Urlam-SP. 4) Open BM -114 & 112 at Tilaru /SSP.	1) Close BM-111 at Urlam/SP. 2) Close BM-114 & BM -112 at Tilaru/ SSP.
4	2) Sub Sector on UP line between Urlam-SP to Tilaru-SSP (<u>E/S 11301 and 11303</u>).	1) Line clear shall not be granted to Tilaru for train on UP line and concerned reception signals shall be kept at 'ON'. 2) Line Clear shall not be obtained from Srikakulam-Road for trains on UP line and concerned despatch signals shall be kept at 'ON'. 3) No movement on Cross over 13 A&B & 14 A&B is allowed.	1) Point No. 13 A&B and 14 A&B shall be kept normal.	1) Ensure no electrical loco is stabling with its panto raised position in the section. 2) Ensure BM-109 at Urlam/SP is in open position. 3) Open BM-111 at Urlam/SP. 4) Open BM Nos.112 &113 at Tilaru/SSP.	1) Close BM-112 & 113 at Tilaru/SSP. 2) Close BM-111 at Urlam-SP.
5	<u>C.-ELEMENTARY SECTIONS</u> 1) E/S 10606 On DN line between SM-134 at location No.748/18 of Srikakulam-Road to Urlam/SP Section.	1) Line clear shall not be granted to Srikakulam-Road for DN trains on DN line. 2) DN reception signals shall be kept at 'ON'.	NIL	1) Ensure BM-110 is in open position at Urlam-SSP 2) Open BM-108 at Urlam-SP. 3) Open BM-106&107 at Dusi-SP 4) Open Yard. SM-134 at location No.748/18 of Srikakulam-Road 5) Close BM-106&107 at Dusi-SP	1) Close BM-108 at Urlam-SP. 2) Close SM-134 at location .748/18 of Srikakulam-Road

DOM/ WAT

SR.DEE/TRD/WAT

1	2	3	4	5	6
6	2) E/s. 11404 On DN line between Urlam-SP to SM-137 at Loc.No.738/2 of Urlam Yard on DN main and DN loop.	1) Line clear shall not be granted to Srikakulam-Road for trains on DN line. 2) Line clear shall not be obtained from Tilaru for trains on DN line. 3) DN trains shall not be dispatched to Tilaru- from DN main and DN loop. 4) No shunting movement is allowed on north end of yard on DN line 5) Necessary DN reception, shunt & dispatch signals shall be kept at 'ON'.	1) Point No. 13 A&B and 14 A&B shall be kept normal.	1) Ensure BM-110 is in open position at Urlam-SP 2) Open BM -111 at Urlam-SP 3) Open BM -112&114 at Tilaru/SSP. 4) Open SM-137 at location No.738/2 of Urlam yard 5) Close BM -112&114 at Tilaru/SSP.	1) Close BM -111 at Urlam-SP. 2) Close SM-137 at location No.738/2 of urlam yard.
7	3) E/s.No.11402 on DN line between SM-137 at Loc.No.738/2 of Urlam to Tilaru/SSP	1) Line clear shall not be obtained from Tilaru for trains on DN line. 2) No shunting movement is allowed on north end of yard on DN line 3) DN departure 7 shunt signals shall be kept at 'ON'.	NIL	1) Ensure BM-110 is in open position at Urlam-SP 2) Open BM -111 at Urlam-SP 3) Open BM -112&114 at Tilaru/SSP. 4) Open SM-137 at location No.738/2 of Urlam yard 5) Close BM -111 at Urlam-SP.	1) Open BM -112&114 at Tilaru/SSP. 2) Close SM-137 at location No.738/2 of urlam yard.
8	4) E/s.11505 On UP line between Urlam/SP to SM-135 at locationNo.748/15 of Srikakulam-Road	1) Line clear shall not be obtained from Srikakulam-Road for trains on UP line. 2) Necessary UP despatch signals shall be kept at 'ON'.	NIL	1) Ensure BM-109 is in open position at Urlam/SP 2) Open BM-106&107 at Dusi-SP. 3) Open BM-108 at Urlam/ SP 4) Open SM-135 at location No.748/15 of Srikakulam-Road yard. 5) Close BM-106&107 at Dusi-SP.	1) Close BM-108 at Urlam-SP. 2) Close SM-135 at location No.748/15 of Srikakulam-Road Yard.

DOM/ WAT

SR.DEE/TRD/WAT

1	2	3	4	5	6
9	5) E/s.11303 bet Urlam-SP to SM-136 at Loc.No.739/7 of Urlam yard on UP Line..	1) Line clear shall not be obtained from Srikakulam-Road for trains on UP line. 2) UP trains shall not be dispatched to Srikakulam-Road from Urlam yard 3) Trains can be admitted on UP/Loop directly by setting to ORL.. 4) Necessary UP depstach signals shall be kept at 'ON'.	1) Point No. 13 A&B shall be kept in normal position. 2) Cross over 18 A&B shall be kept in reverse position.	1) Ensure that BM No.109 is in open position at Urlam SP. 2) Open BM-111 at Urlam SP 3) Open BM -112&113 at Tilaru/SSP. 4) Open SM-136 at Urlam Yard at loc.No.739/7. 5) Close BM -112&113 at Tilaru/SSP.	1) Close BM-111 at Urlam-SP. 2) Close SM-136 at location No.739/7 of Urlam Yard.
10	6) E/s.11301 bet Tilaru/SSP to SM-136 at loc. No. 739/7 of Urlam on UP Line	1) Line clear shall not be granted to Tilaru for trains on UP line. 2) UP trains shall not be dispatched to Srikakulam-Road from UP Main Line &UP/Loop Line. 3) No shunting movement is allowed on both ends of yard on UP line 4) Concerned UP reception &shunt despatch signals shall be kept at 'ON'.	1) Point No. 13 A&B shall be kept in normal position.	1) Open SM-136 at Urlam Yard. 2) Open BM -113 & BM -112 at Tilaru/SSP.	1) Close BM Nos. 113 &112 at Tilaru-SSP. 2) Close SM-136 at Urlam yard.

NOTE :

- 1) For any unusual movement of electric locos the Station Master on duty must refer to the working rule diagram of his station and ensure that there is no chance of energizing the Station 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/ULM/362/18/MOD A

DOM/ WAT

DEE/TRD/WAT