

EAST COAST RAILWAY

WALTAIR DIVISION



STATION WORKING RULES

OF

DUSI

APPENDIX 'F' TO STATION WORKING RULES OF DUSI STATION

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

NIL

(B.MADHU VENKATESWARLU)
DSTE / WAT

(K.GANESH KUMAR)
Sr.DOM(G) / WAT

EAST COAST RAILWAY
WALTAIR DIVISION

STATION WORKING RULES OF DUSI STATION
(BROAD GAUGE)

No.WTP/5/SWR/DUSI

Date of Issue: _____

Date brought into force: _____

NOTE:-

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

(1) STATION WORKING RULE DIAGRAM:

- a) Station Working Rule Diagram : SI/WRD/23007 Alt - 'G'
- b) CSTE/E.Co.Rly/DRG No : SI/23007 Alt - 'G'
- c) Date up to which corrected :

(2) DESCRIPTION OF STATION:

2.1 GENERAL (LOCATION):

A	Name of the Station:	:	DUSI(Code: DUSI)
B	Class	:	'B'-Class
C	Name of the section	:	HOWRAH- MADRAS
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	:	755.359
J	From	:	HWH
K	No. of Cabins	:	Centrally Operated VDU
L	Standard of Interlocking	:	Standard III

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

	Adjacent Block station	Distance	Direction
A	SRIKAKULAM ROAD (CHE)	6.464 KM	HWH END
B	PONDURU (PDU)	8.83 KM	VSKP END
C	Automatic Signals	NIL	
D	DK Station & Out Lying Siding	NIL	
E	PROVISION OF IBS	NIL	

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

Between Stations		The Point from which the 'Block Section' Commences	The Point at which the 'Block Section terminates
DUSI-PDU	Up Direction	From UP Advanced starter signal No 13 of DUSI	Outermost facing point No 21A of PDU
	Dn Direction	From Dn Advanced starter signal No 14 of PDU	Outermost facing point No 22A of DUSI
DUSI-CHE	Up Direction	From UP Advanced starter signal No 17 of CHE	Up to the LC gate at KM 754/19-21
	Dn Direction	From DN Advanced starter signal No 14 of DUSI	Up to the outer most facing point No 22A of CHE .

2.4 GRADIENTS:

Station towards	Chainage		Inter Distance	Gradient
HOWRAH END DN LINE	From	To		
	CSB	1154.582 M	1154-582 M	Level
	1154-582 M	In to section.	-	1 in 505.9 raising
HOWRAH END UP LINE	CSB	395.9 M	395.9 M	Level
	395.9 M	729.082	369.182 M	1 in 1242 falling
	729.082	2184.81 M	1455.728 M	Level
	2184.81 M	In to section	--	1 in 200 raising
VSKP END DN LINE	CSB	298.704 M	298.704 M	1 in 685.7 Falling
	298.704 M	682.750 M	384.046 M	Level
	682.750 M	1001.350 M	318.600 M	1 in 200 Raising
	1001.350 M	1883.700 M	882.350 M	Level
	1883.700 M	In to section.	-	1 in 200 Falling

2.5 LAYOUT:

(A) RUNNING LINES IN THE MAIN YARD.

SI No.	Name of the line	Electrified/ Non Electrified	Platforms with length
1	Line No.-1 (UP Main)	Electrified	Low Level (364.854 M)
2	Line No.-2 (UP Loop)	Electrified	Low Level (338.937 M)
3	Line No.3 (DN Loop)	Electrified	
4	Line No.4 (DN Main)	Electrified	---

(B) SIDINGS:

SI No.	Name of the line	Electrified/ Non Electrified	Platforms with length
1	H.A.SIDING (HWH END)	Electrified	NIL
2	H.A.SIDING (VSKP END)	Electrified	NIL

2.5.1 RUNNING LINES, DIRECTION OF TRAFFIC & HOLDING CAPACITY IN CSL:

SI No	Name of the lines	Holding capacity in CSL	Direction of movements
1	Line No.-1 (UP MAIN)	720 M (STR to SB)	(a)Trains coming from CHE and proceed towards PDU are UP trains. (b) Trains coming from PDU and proceed towards CHE are DN trains.
2	Line No.-2 (UP LOOP)	700.50 M (STR to SB)	
3	Line No.3 (DN LOOP)	700M (SB to STR)	
4	Line No.4(DN MAIN)	712M (SB to STR)	

2.5.2 NON RUNNING LINES:

Sl.no	Name	Holding capacity in CSL in mtrs	Electrified/ Non Electrified
1	HOT AXLE SIDINGS (HWH END)	37.9 M (AC to DE)	Electrified
2	HOT AXLE SIDINGS (VSKP END)	37.6 M (AC to DE)	Electrified

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT

Vide foot note Sl.No.10 of WRD, COM/BBS's special instructions has been obtained to place UP distance signal on RH side of the track vide GR 3.04 (1)

2.6 LEVEL CROSSINGS

Detailed workings of LC gates are mentioned in Appendix 'A'.

(3) SYSTEM AND MEANS OF WORKING

System of working in force	:	Absolute Block System of working
Double Line/Single Line	:	Double Line
Block Instruments	:	SGE type lock and Block Instruments
Co-operative/Non co-operative	:	Non co-operative
Block Telephones	:	Attached with Block Instruments

(4) SYSTEM OF SIGNALLING AND INTERLOCKING**4.1**

1	Standard of Interlocking	Standard – III
2	Type of Signaling	MACLS
3	Mode of Operating the signals	Visual Display Unit (VDU)
4	Provision of Calling –On signals	Calling-on signals are provided below Home signals (i.e. in both UP & Down directions) as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b).
5	Provision of Shunt signals	SH-3 is provided at HWH end of the yard
6	Emergency cross over	21 A&B at HWH end is provided.
7	Track circuits	Refer 7.0 of Appendix ‘B’ of this SWR.
8	Axle counters	Refer 8.0 of Appendix ‘B’ of this SWR.
9	Crank handle	Refer 3.5, 4.2.3, 12.0 & 21.0 to 21.7.1 of Appendix ‘B’ of this SWR.
10	Emergency Point operation:	Refer 4.0, 4.1, 4.2, 4.2.1, 4.2.2 & 4.2.3 of Appendix ‘B’ of this SWR.
11	Showing of Veedor Counters	<p>One counter icon has been provided on the VDU. When selected a drop down menu will appear indicating the following counters.</p> <ol style="list-style-type: none"> 1. Emergency Route Release. 2. Emergency Point Operation. 3. Emergency Crank handle release. 4. Emergency Gate release. 5. LVCD axle counters resetting for section DUSI-CHE & DUSI-PDU. 6. UP & DN Calling On Signals. <p>When the pointing device is placed any one of the menu the latest counter number will pup-up on VDU</p>
12	Emergency route release indication:	<p>The Electronic interlocking is based on the principle of ‘DEAD APPROACH LOCKING’. As such when a route is set and signal is taken ‘OFF’ on the route, the route gets locked. Normally the route is released by the passage of the train over the route.</p> <p>When it becomes necessary to alter the route after the signal has been taken ‘OFF’ vide SR 3.36.02(a), click on the concerned signal. After clicking by the left button on the mouse a pop-UP menu will appear as shown above- Click on the cancellation menu (Main/Calling on) of the concerned signal, the signal will immediately go</p>

		to ON aspect. After doing so click on the route release menu, the route locked indication will start flashing for 120 second. After completion of 120 seconds, the White light along with the White strip of light will disappear suggesting the route has been released. This action will be recorded in a counter. The counter will increment the number for each and every such action. In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to release the route. Each operation of emergency cancellation of route should be recorded in the emergency route release counter register by registering the next higher number. All such operations and the new number should be recorded in the station diary Veedor counter register and in the train signal register.
13	Emergency Crank Handle release.	As per para 4.2.3 of Appendix 'B'
14	Emergency Gate release.	As per para 4.3 of Appendix 'B'

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

Double locking arrangement is provided in the relay room with one key within the custody of on duty SM & other one with the maintainer of the S&T department. JPO issued by PCOM and CSTE/ECOR vide No.JPO/02/2012, Dt.29.08.2012 should be followed.

4.3 POWER SUPPLY:

- i) Auto changeover panel is provided in the Station Master's Office with the three power supplies viz., DN AT, UP AT and Local, for changing the switch to the required supply position.
- ii) Normally the switch will be kept towards DN AT or UP AT position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other AT. 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 the manual switches provided in the SM room. In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch. In case a failure of both DN AT & UP AT supplies a message shall be given to the AEE and CTFO/PSI for prompt rectification.
- iv) For IPS system that provides power supply to the signaling installation 230V AC is taken from

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the selection output of the Auto change Over Panel in SM Office. There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

REMOTE MONITORING ASM BOX:

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

- i) 50% depth of discharge (DOD) of battery. In this condition audio/visual alarm comes, which can be acknowledged with audio cut-off.
- ii) 60% DOD, which warns for emergency. The alarm for this condition is same as for condition 1.
- iii) 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.
- iv) Any of the module fails, which calls for 'call S&T'.
- v) Whenever there is a failure of power supply in one AT the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of power supply on both AT's and make an entry in the Station Diary duly initiating action for rectification of failure, if any.

(5) TELECOMMUNICATIONS:

a)	The Station is connected to VSKP -PSA Main line Control Circuit.
b)	Hot line telephone provided between DUSI-CHE and DUSI-PDU.
c)	Telephone attached to SGE type Lock and Block Instruments for sections DUSI-PDU and DUSI-CHE.
d)	Railway Auto telephone is provided at the station.
e)	Station to station communication is provided between DUSI-CHE and DUSI-PDU stations.
f)	Telephone communication is provided between Station Master on duty Up CH locations and to DN CH Locations.
g)	Telephone attached to L.C.Gates No. ML-428, ML-430 & ML-431 at Km. 752/13-15, Km 754/19-21 & at Km 756/19-21 respectively.
h)	The station is connected to VSKP - PSA traction power control circuit.
i)	The station is connected to VSKP – PSA traction Loco control circuit.
j)	VHF set is provided at the station.

(6) SYSTEM OF TRAIN WORKING:

6.1 DUTIES OF TRAIN WORKING STAFF IN EACH SHIFT:

The duties of train working operational staff are detailed in Appendix 'D' of this SWR.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

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

SL No.	COMPLEMENT OF STAFF	STAFF IN EACH SHIFT
1	Station Master	01
2	Points Man	01
3	Traffic Gate Keeper	01

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

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

The SM on duty is responsible to ascertain the clearance of the nominated line between BSLB/first facing point and advanced starter signal in each direction. Private Number Book should be under custody of SM on duty.

6.1.3 ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER

All staff who are in any way connected with trains passing duties, shall before being allowed to take up independent charge of their duties and on his absence for a period of 15(Fifteen) consecutive days or more, and if there is any change made in the Station Working Rules, shall sign in the Assurance Register and SWR as a token of their having gone through and understood clearly the relative rules in connection with their duties.

6.2 CONDITIONS FOR GRANTING LINE CLEAR

- The trains are worked under Absolute Block system with double line working and MACL signaling vide GR 8.03.
- Adequate distance for reception of trains at PUNDI.

Line No.	For UP Trains		For DN Trains	
	FROM	TO	FROM	TO
Line No.1 (UP MAIN)	UP STR.SIG NO.11	UP ADV STR.No.13	--	--
Line No.2 (UP LOOP)	UP STR.SIG NO.7	TO THE END OF SAND HUMP	---	---
		UP ADV STR.No.13		
Line No.3 (DN LOOP)	---	---	DN STR SIG No8	TO THE END OF OVERRUN LINE
				UP TO LC GATE KM 754/19-21
Line No.4 (DN MAIN)	---	---	DN MAIN STR SIG No.12	UP TO LC GATE KM 754/19-21

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

6.2.1.1 SETTING OF POINTS AGAINST BLOCK LINE

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

Safety Point Alarm Unit (SPAU):

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

- On complete arrival of a train at the station, the SM has to set the points immediately against the occupied line.

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

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

6.2.1.2 RECEPTION OF A TRAIN ON BLOCKED LINE

Whenever trains are to be admitted on blocked line it is necessary that the train is Piloted In by a written authority T/509 given by the SM on duty and delivered by a competent Railway servant to the Loco Pilot of the train. Calling on signal may be taken OFF. [Refer GR 5.09 & SRs there to].

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE

NIL

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE.

NIL

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

NIL

6.2.1.6 ANY OTHER SPECIAL CONDITIONS

NIL

6.3 CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS:-

The SM on duty shall nominate a clear line not only up to the starter but also for an adequate distance beyond it for reception of trains. [Refer GR 3.07(4)(5), 3.08(4)(b) 3.36, 3.38, 3.40, 4.17 and SR 3.36. 01, 3.36.02, 3.36.04, 3.40.01, 3.40.02, 3.47.01, 4.17.02, and Block Working Manual]

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

Station Master should ensure that signal is put back to 'ON' after passage of the train as per GR 3.36.2 (b).

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

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

1.	While Receiving of an Up train on	AND	Dispatch of an Up train from line no. 1.
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	line No.2 set to sand hump		
2.	While Receiving of an DN train on line No.3 set to ORL		Dispatch of an DN train from line no. 4.

6.5 COMPLETE ARRIVAL OF TRAINS:

The entire block section between DUSI-CHE and DUSI-PDU on both Up and Down Lines are monitored by axle counter system and the position of the block section whether 'Occupied' or 'Clear' is indicated on VDU at SM's office. As soon as train enters in to that block section the RED indication appears on VDU. After whole train clears the block section GREEN indication appears on the VDU. This confirms the complete arrival of train and the SM on duty shall give 'Train Out of Block Section' report on seeing the section clear indication GREEN on the VDU.

In case of failure of Axle counter the SM on duty shall obtain 'Complete Arrival' Certificate from the guard of the train in the Complete Arrival Register (T/1410) maintained at the station for stopping train. For through passing train the SM on duty shall satisfy himself the complete arrival of the train by verification of the Last Vehicle Indicator vide SR 4.16.05 that the train arrived complete.

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

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

6.6 DESPATCH OF TRAINS:

To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the VDU. He shall suspend all non-isolated shunting and the Station Master will ensure that the Level crossing Gate is closed against road traffic and then shall take "OFF" the concerned route starter and advanced starter signal. The 'OFF' aspect of the route starter and advanced starter is the authority to proceed into the block section. [Refer GR 3.38, 3.42, SR 3.36.04(b), 3.42.01(a) ,3.42.04 and BWM 2.07.5(a)]

The Station Master on duty shall watch the safe passage of the train with its last vehicle indicator. After the train passes the advanced starter complete, he shall send the train entering block section signal to the station in advance. If a train worked without Guard or Brake Van the instruction laid down in Subsidiary Rule shall be followed. The interlocked

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level crossing gate shall remain closed against road traffic for dispatch of trains. [Refer SR.4.23.02 & 4.25.02].

6.7 TRAINS RUNNING THROUGH:

The procedure detailed in Para 6.4, 6.5 shall be observed. The Station Master is responsible to observe/watch the condition of the vehicles on a passing train and shall wave green hand signal horizontally until anything wrong is noticed on train. For this purpose the Station Master on duty shall stand in such a position that he sees a clear view of the passing train and that his hand signals can clearly be seen by the loco pilot and Guard of the train.

He shall also depute the PM on duty to the other side, for passing the train. The TPM on duty shall wave Green hand signal horizontally. He shall show danger hand signal if he notices anything is wrong and reports the same to the SM on duty

The Station Master on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General and Subsidiary Rule. [Ref GR 3.40, 3.42, 4.17, 4.42, & SR 4.42.02 (b) (i), (ii), (iii), c & (d)]

6.8 WORKING IN CASE OF FAILURE:

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

TRACK CIRCUITS	In case of failure of track circuits, the clearance of the concerned line should be ensured physically before a train is piloted.
AXLE COUNTER	If the axle counter fails between the block sections, resetting procedure will be adopted as per para No. 5.0 of (APP-B). if the axle counter indication does not appear 'Green & continues to show 'RED' condition after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SE (signal) for rectification.
BLOCK INSTRUMENTS	In the event of partial/total failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer SR 6.02.03 & 6.02.06] During this period of time the authority will be T/369(3b) with identification number and Private Number issued from the station in advance written both in figure and words.
RECEPTION OF TRAIN ON	Whenever trains are to be admitted on blocked line it

OBSTRUCTED LINE	is necessary that the train is Piloted In by a written authority T/509 given by the SM on duty and delivered by a competent Railway servant to the Loco Pilot of the train. Calling on signal may be taken OFF. [Refer GR 5.09 & SRs there to].
RECEPTION OF A TRAIN ON NON-SIGNALLED LINE	NIL
DEFECTIVE SIGNALS:	Whenever signals become defective, the procedure laid down in GR 3.68 to 3.71, 3.80 and SR 3.68.01 (c)] shall be followed. In case of disconnection of signal and interlocking for repairs and maintenance, procedure laid down in GR and relevant SRs shall be followed. In the event of signal showing no lights, Station Master on duty shall before giving line clear initiate action in accordance with the procedure prescribed in GR and the relevant SRs. [Refer GR 3.51, 3.69, 3.49 (4), 3.68 to 3.77]
DEFECTIVE INTERLOCKING:	When interlocking becomes defective the SM on duty shall be responsible for correct setting, clamping and padlocking of points for admission of train. [Refer SR 3.69.03(b) (i)& 3.69.01].
DEFECTIVE/DAMAGED POINTS	When any point fails to operate normally by the route setting operation through VDU it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle.

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

1. 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.
2. 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.
3. Motor Trolleys shall be worked as per GR 15.25 & SR thereto and BWM 5.11(2), 5.12, 5.13 and 5.14(2)(b). Material trolleys shall be worked as per GR 15.27 and SRs thereto and BWM 5.11(2), 5.13, 5.13(2)(b). The authority to proceed shall be on form T/369(3b).

(7) BLOCKING OF THE LINES:

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement 'Line Block' is to be activated on VDU by SM on duty following procedures as laid down in para no 6.2.2. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23 and SR 5.23.01].

(8) SHUNTING

8.1 GENERAL PRECAUTIONS.

The rules laid down in GR 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16, 5.17, 5.18, 5.21, 8.06 and 8.15 with relevant SRs shall be observed. All shunt movements shall be supervised by Guard / Station Master on duty or by a competent Railway servant deputed by SM on duty as the case may be. The authority for shunting shall be the taken off of Shunt Signal or on form T/806. The limit Up to which shunting is permitted and the lines involved must write on the shunting authority.

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:

Strictly prohibited.

8.3 PROHIBITION OF SHUNTING SPECIAL FEATURES IF ANY:

- i) Hand shunting is prohibited at both ends of the yard.
- ii) Fly shunting is prohibited.
- iii) Shunting in face of an approaching train is prohibited.

8.4 SHUNTING ON SINGLE LINE:

NIL.

8.5 SHUNTING ON DOUBLE LINE:

Block Back	The procedure of block back/ block forward given in BWM 5.15(1)(b) shall be followed.
Block Forward	GR 8.05 and SRs there to shall be followed
Following Train travelling away	Shunting or obstruction for any other purpose shall not be permitted in the block section in rear unless it is clear and is blocked backed vide GR 8.06.
Up to IBS	NIL
Beyond IBS	NIL
During failure of Block Instrument	During failure of SGE Double line Block instrument shunting in the block section in advance / in rear upto & beyond IBS shall not be

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	performed unless the section is clear of all trains and the Block section is Blocked back/ Blocked forward as the case may be.
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8.6 SHUNTING IN THE SIDING TAKING OFF FROM THE STATION YARD :

While performing shunting in the sidings it should be authorised by issuing T/806 clearly mentioning the limits up to which shunting is permitted as also the lines, occupied in shunting. The relevant provisions of GR 5.14 and SR thereto shall be meticulously followed.

(9) ABNORMAL CONDITIONS: -	
(a) The 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 with BWM 5.16 & 5.23 & SR 6.02.06
ii) The Authority to proceed in to the occupied block section in case obstruction of line or accident etc.	Whenever it becomes necessary to send a train into the block station already occupied by another train or due to accident, trains shall be worked in accordance with SR 6.02.05. The authority to proceed shall be block ticket (i.e T/A 602) or as per SR 6.02.05.
iii) Trains delayed in block section.	When a train carrying passenger does not arrive within '10' minutes or a goods train within 20 minutes after allowing for its normal running time from the station in rear the Station Master at the station in advance shall immediately advise the station in rear and the Section Controller on duty of this fact. The procedure laid down in GR 6.04 and SR thereto shall be followed.
iv) Failure / Passing of intermediate block stop signal at 'ON':	NIL
v) Failure of axle counter block / BPAC:	Para No.23.0 in Appendix 'B' of this SWR to be adopted.
vi) Failure of MTRC	NIL
(b) Procedure for emergency operation of Points by Crank Handle:	
(i)	The detailed procedure for emergency crank handle operation of motor operated points are mentioned in Para No.4.2.3 of Appendix 'B'
(ii)	Procedure for Emergency operation of point with axle counter track circuit failure are mentioned in Para No.4.2 of Appendix 'B'
(c) Certification of clearance of track before "calling on signal" operation is initiated:	
Before taking off Calling-on Signal during failure of track circuit/axle counter, the route and the clearance of the track over which train would pass to be verified by SM.	
(d) Reporting failure of points, Track circuits / Axle counters and interlocking:	

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(i)	Whenever there is a failure of points, track circuits / axle counters or any other interlocking gear at the station the failure should be reported by SM on duty to the concerned signal maintenance staff on duty responsible for attending the failure and only after receipt of the written memo from the Signalling Maintainer for rectification of the fault, SM should restore the normal working.
(ii)	The entries in failure register to be done with message to the Section Controller.

9.1 TOTAL FAILURE OF COMMUNICATION: -

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

The procedure laid down in GR 6.09 with SR there to shall be followed.

The last stop signals shall not be taken 'OFF' but an authority to pass the last stop signal at 'ON' shall be issued in the prescribed form T/369 (3b).

(10) VISIBILITY TEST OBJECT:

The signal lights of UP starter signal No.11 of Line No 1 and DN starter No.8 of Line No.3 are earmarked as Visibility Test Object vide GR 3.62(2) (b)(iii)

(11) ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-'E')

(12) FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG.

- i) During thick, foggy or tempestuous, dust storm etc weather, when the visibility of the signal is impaired. The SM on duty shall initiate action to depute Fog Signalmen with Detonators Vide GR 3.61 in order to indicate the location of the station approach signals to the driver of an approaching train.
- ii) The Fog Signalmen shall proceed to the outer most signal of the station and place one detonators at a distance of 270M from the first approaching stop signal towards the approaching train and another detonator at a distance of 10M from the first one and he shall stand 45M away from the detonator.
- iii) The Fog signal men shall be permanent employees, no temporary or casual labour shall be deployed as Fog signal man.
- iv) The assurance of Fog signal man available at the station (including Engineering Branch if available) shall be obtained in the fog signal register every year in the month of 'October'.

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- v) Details of supply of detonators, available stock, use, and testing etc. shall be maintained in the fog signal register maintained at the station as per GR 3.64 and SR there to

Note: Names of Fog Signal men available at the station shall be exhibited in the SM's office.

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

APPENDIX 'A' STATION WORKING RULES OF DUSI STATION
SPECIAL CLASS L.C. GATE AT KM 752/13-15

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-429
2	Engineering or Traffic gate		Engineering Gate ('A'-Class)
3	Under control of station master or permanent way inspector.		SSE(P)CHE
4	Location at Km.		KM. 752/13-15 (752.468)
5	At station		MID SECTION
6	In between station		DUSI-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	:	--
12	Provision of gate signals at Km.	:	i) Up Line : 572.468 ii) DN Line : 932.468
13	Signaling arrangement	:	-
14	Means of communication Telephone.	:	Telephone with DUSI Station
15	Width of the level crossing gate	:	7.5 M
16	Type of road	:	Others
17	Name of road	:	Kamugulavalasa-Muddalapeta Road
18	Metalled /Non-Metalled	:	Metalled
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 : Straight [b] South/East Side : Straight

Station Working Rules of DUSI Station

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 crossing gates.	: C.C Block
28	Length of rumble strip/ speed breakers.	: 5.5 M
29	Road signs	: Provided
30	Speed breakers indication board	: Provided
31	TVU:	: 30342
32	Census next due on	: APR-2012
33	Demarcation for placement of detonators.	: Provided
34	No. of gateman working	: 2
35	Nearest Railway Medical Assistance	: Rly Health Unit CHE
36	Nearest Private Medical Assistance available (if any)	: Amadavalasa
37	List of equipment available (Yes/No)	: Yes

1.2 **EQUIPMENT:**

Items	<u>Quantity / Numbers</u>
1. Hand Signal Lamp Tri Colour	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.

Items

Quantity / Numbers

Station Working Rules of DUSI Station

- | | |
|--|-------|
| 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 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 Working Instructions incorporating local operational requirements. Whenever gate is to be closed the procedure discussed in Para 2a of annexure-iv(i) to (v) shall be followed.

1.5 DUTIES OF GATEMAN:

1. ALERTNESS:

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

2. POSITION DURING PASSAGE OF TRAINS:

During passage of trains, gateman will stand in the manner indicated below:

- i) Gateman will stand alternatively in front of the gate-lodge facing the approaching train.

Station Working Rules of DUSI Station

- 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.

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- 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 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:**

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- 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) On those Meter Gauge sections where trains run at more than 75 KMPH, detonators shall be placed at a distance to be specified under Special Instructions by the Administration.
- viii) 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.

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- ix) 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.

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- 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 – I

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:

Detailed mode of operation for opening and closing the level crossing gate shall be provide in the respective Station Working Rules and Working Instructions incorporating

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local operational requirements. Whenever gate is to be closed the procedure discussed in Para 2a of annexure-iv(i) to (v) shall be followed.

2. Exchange of Private Numbers:

- i) Immediately after departure of the train, Station Master shall advise the gateman through telephone connected at his end, the number, description, direction and expected time of passage of the train at the gate.
- 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 dispatching station.
- iii) If the actual running time of the train from either end of the section is less than 10 minutes, Station Master will convey this advice to the gateman before obtaining / granting line clear.
- iv) It should be the duty of the gateman to ensure that the gate is closed in time, so that there is no detention to the train or excessive detention to road traffic.

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) 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.

4. Failure of Lifting Barriers :

- i) When the gate cannot be closed due to failure of lifting barriers, the gateman shall immediately inform the Station Master on duty under exchange of private number, and ensure that lifting 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.

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

- i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then 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.

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- 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.

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

- i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gateman must immediately inform the Station Master / 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. Defective Gate Signals:

- i) The gateman shall treat the gate as defective and must not lower them under following circumstances:
 - a) If gate signals can be taken 'OFF' without closing the gate, or

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- b) The key can be extracted from the operation winch when the gate is in open condition, or
- c) The key can be extracted from the gate barrier when the gate is in open condition
- ii) If the Gate or the Gate Signal or Warner / Distant Signal becomes defective in 'OFF' position, the gateman will make all efforts to put it at 'ON' position even by cutting signal wires, if necessary.
- iii) The gateman will immediately advise the Station Master 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) Station Master on duty will issue 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 despatching a train in the block section from his end.
- viii) Station Master 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 rectify the defective gate signal and issue reconnection / fit memo for the same,

8. Obstruction at the Gate:

- i) If the gate is broken by 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.

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- 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, of the gate is broken, but is clear of any obstruction.
- xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks, and there after exhibit green hand signal, if the gate is not obstructed.
- xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xiii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection / fit memo for the same.

9. Obstruction on the Track near Level Crossing Gate:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No.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 DUSI 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	:	ML-430
2	Engineering or Traffic gate		Traffic Gate
3	Under control of station master or permanent way inspector.		SS/DUSI
4	Location at Km.		KM 754/21-25
5	At station		DUSI
6	In between station		DUSI-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 key transmission.
12	Provision of gate single at Km.	:	i) Up Line :Station Signals ii) DN Line : Station Signals
13	Signaling arrangement	:	MACL
14	Means of communication Telephone.	:	Telephone connected with DUSI station.
15	Width of the level crossing gate	:	8 M
16	Type of road	:	Other
17	Name of road	:	DUSI-Kottavalasa Road
18	Metalled /Non-Metalled	:	Metalled
19	Approach road	:	Metalled
20	Width of the road	:	8 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: 1 in 100
23	Road alignment (straight/Curve)	:	[a] North/East Side : Straight

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		[b] South/East Side : Straight
24	Provision of height gauges	: Provided
25	Type of barriers	: Coupled Lifting Barriers
26	Length of check rails	: 11 M
27	Road surface in between level crossing gates.	: Level CC Block
28	Length of rumble strip/ speed breakers.	: 8 M
29	Road signs	: Provided
30	Speed breakers indication board	: Provided
31	TVU:	: 71654 01/2012
32	Census next due on	: 2015
33	Demarcation for placement of detonators.	: Provided
34	No. of gateman working	: 3
35	Nearest Railway Medical Assistance	: Rly Health Unit/CHE
36	Nearest Private Medical Assistance available (if any)	: CHE
37	List of equipment available (Yes/No)	: Yes

1.2 **EQUIPMENT:**

Items	<u>Quantity / Numbers</u>
1. Hand Signal Lamp Tri Colour	2 Nos
2. Hand Signal Flag Green	1 No with mounted stick
3. Hand Signal Flag Red	2 No with mounted stick
4. Banner Flag Red	2 Nos
5. Spare chains with padlocks	2 chains with 2 pad lock
6. Detonators	10 in each case
7. Gate lamps	
8. Basket	1 No.
9. Whistle	1 No.
10. Stop Boards	2 retro reflective stop boards with stands
11. Pad Lock	1 No.
12. Wall Clock	1 No.
13. A small size chin for use in cse 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.

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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 MODE OF OPERATION

Gateman shall normally keep LC gate in open condition whenever it is required to close the SS on duty shall inform the gateman about the direction and description of the train intended to receive or dispatch.

- a) Key 'P' is obtained after closing the LC gate, releases lever '1'
- b) Lever '1' when reversed locks the LC and releases lever '2' and Key 'Q'
- c) Key 'Q' transmitted electrically to VDU in conjunction with lever '2' reversed to release concerned signals
- d) Lever '2' is provided to put back concerned signals to ON in case of emergency
- e) When gate is closed locked and the key is transmitted a flashing yellow indication will appear on the VDU seeing which the SM on duty receives the control by clicking the LC control 31 and select 'RECEIVE'. The flashing indication becomes steady.
- f) The locked Red indication will appear when the gate has locked by any of the possible signal routes
- g) On complete arrival of the train and after the route is released locked, red indication will disappear on VDU.
- h) SM on duty then shall click 'Transmit Control 31' for transmitting the key back to the gateman for operating the LC gate.
- i) After transmission the key in indication will start flashing at VDU suggesting that the key is transmitted to the LC gate.
- j) An indication will appear near RKT at gate lodge suggesting the key can be extracted. Key will be extracted by pushing button provided near RKT for operation of the gate
- k) Flashing white indication on VDU will disappear suggesting that the key is taken out of the RKT for operation of LC gate.

EMERGENCY RELEASE OF GATE KEY

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

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

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- ii) Station Master on duty then shall click on the 'Emergency gate release control' in the gate pop up menu.
- iii) The 'Red' locked indication will flash for 120 seconds and after the time has elapsed the 'Red' indication will disappear.
- iv) Station Master on duty then shall transmit 'Gate Control' by clicking 'Transmit control' (31).
- v) The 'Key In' indication (white) starts flashing suggesting the key is transmitted to Gate man.
- vi) At gate lodge an indication will appear near RKT suggesting that the key can be released from the RKT for opening of the LC gate.
- vii) Seeing the indication gate man on duty shall extract the key from RKT and operate the gate.
- viii) On release of key from RKT flashing indication will disappear.

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

1.4 **Exchange of Private Numbers:**

.1

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

1.5 **DUTIES OF GATEMAN:**

1. **ALERTNESS:**

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

2. **POSITION DURING PASSAGE OF TRAINS:**

During passage of trains, gateman will stand in the manner indicated below:

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

3. **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.

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- 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.
- xvii) Gateman shall prevent trespassing by persons or cattle to the maximum extent.
 - i) 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.

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- 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) On those Meter Gauge sections where trains run at more than 75 KMPH, detonators shall be placed at a distance to be specified under Special Instructions by the Administration.
 - viii) 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.
 - ix) 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.

**WORKING INSTRUCTIONS FOR TRAFFIC LEVEL CROSSING GATES
INTERLOCKED WITH STOP SIGNALS OF THE STATION, PROVIDED WITH
TELEPHONE, WITH NORMAL POSITION "OPEN TO ROAD TRAFFIC" at
KM 754/21-25
(General Instructions are common for all types of Manual Level Crossing Gates)**

1 MODE OF OPERATION

Station Working Rules of DUSI Station

Gateman shall normally keep LC gate in open condition whenever it is required to close the SS on duty shall inform the gateman about the direction and description of the train intended to receive or dispatch.

- a) Key 'P' is obtained after closing the LC gate, releases lever '1'
- b) Lever '1' when reversed locks the LC and releases lever '2' and Key 'Q'
- c) Key 'Q' transmitted electrically to VDU in conjunction with lever '2' reversed to release concerned signals
- d) Lever '2' is provided to put back concerned signals to ON in case of emergency
- e) When gate is closed locked and the key is transmitted a flashing yellow indication will appear on the VDU seeing which the SM on duty receives the control by clicking the LC control 31 and select 'RECEIVE'. The flashing indication becomes steady.
- f) The locked Red indication will appear when the gate has locked by any of the possible signal routes
- g) On complete arrival of the train and after the route is released locked, red indication will disappear on VDU.
- h) SM on duty then shall click 'Transmit Control 31' for transmitting the key back to the gateman for operating the LC gate.
- i) After transmission the key in indication will start flashing at VDU suggesting that the key is transmitted to the LC gate.
- j) An indication will appear near RKT at gate lodge suggesting the key can be extracted. Key will be extracted by pushing button provided near RKT for operation of the gate
- k) Flashing white indication on VDU will disappear suggesting that the key is taken out of the RKT for operation of LC gate.

EMERGENCY RELEASE OF GATE KEY

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

- i) Station Master on duty shall first cancel the signal by signal cancellation control of the relevant signal.
- ii) Station Master on duty then shall click on the 'Emergency gate release control' in the gate pop up menu.
- iii) The 'Red' locked indication will flash for 120 seconds and after the time has elapsed the 'Red' indication will disappear.
- iv) Station Master on duty then shall transmit 'Gate Control' by clicking 'Transmit control' (31).
- v) The 'Key In' indication (white) starts flashing suggesting the key is transmitted to Gate man.

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- vi) At gate lodge an indication will appear near RKT suggesting that the key can be released from the RKT for opening of the LC gate.
- vii) Seeing the indication gate man on duty shall extract the key from RKT and operate the gate.
- viii) On release of key from RKT flashing indication will disappear.

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

2. **Exchange of Private Numbers:**

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

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

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

4. **Failure of Lifting Barriers :**

WORKING OF SLIDING BOOM BARRIER INCASE OF BREAKAGE OF MECHANICAL LIFTING BARRIER AT INTERLOCKED 'B2' CLASS LC GATE AT KM 754 / 21-25 (ML 430)

In case of failure of manned level crossing gate operation due to damage of boom etc.. Emergency sliding boom can be used as auxiliary gate without piloting in an pilot out of train. This emergency sliding gate cannot be used during normal working condition of main boom. The followings are description as well as working instructions for the sliding boom.

- a) Sliding boom provided at the near end, far end of gate lodge shall be padlocked with chain in open position.
- b) In case of breakage of normal boom gate man shall release the free sliding boom key "S" from "EKT-3" provided on the wall of the gate lodge. This shall put back road signals to danger & sound the hooter.
- c) With this key "S" the Gate man shall open the far end pad locked emergency sliding boom and slide it against road traffic. Key (chained with barrier) releases the lock plunger and key SB-1. When key SB-1 is extracted locks the sliding barrier-1.
- d) Then Gate Man shall unlock the near end sliding boom padlocked & roll it against road traffic. This boom is to be locked in closed condition by the 'SB I' key released by far end boom, along with the key (chained with the barrier), releases the lock plunger and key SB-2. The SB-2 key when extracted locks the sliding barrier-2 & SB-1 finally the SB-2 has to be transmitted to the SMR on the sliding boom EKT marked as EKT-2 provided on the wall.

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- e) One sliding boom slot switch (GS) provided on the wall, which need to be made reverse in conjunction with transmission of sliding boom key "SB-2". In case of any damage to sliding boom arises while it is closed to road traffic, leading to infringement to track, this switch (GS) can be made normal to put back concerned Signals to danger.
- f) After passage of the train SMR shall release the Gate key by which sliding boom key "SB 2" transmitted shall be released & all gears to put back into normal position .in the reverse sequence of operation by the Gateman.
- g) Sliding boom key ward shall be different to that of normal key being transmitted to SMR.
- h) Sliding boom equipments need to be painted red to distinguish it from normal equipments. Red & black patches of retro reflective tapes may be provided on sliding booms.

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

- (i) If the gate key cannot be extracted from EKT-2 the gateman must immediately inform the SM on duty on telephone under exchange of private number.
- (ii) If Emergency Key is available at he gate lodge / cabin, Gateman will take it out from the sealed box by breaking the seal and open the gate for road traffic.
- (iii) The record of the date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons.
- (iv) Thereafter, the gate must be treated as non-interlocked and procedure for reception / despatch of trains as prescribed for non-interlocked gates, should be adopted.
- (v) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
- (vi) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vii) Station master will advice S&T staff responsible for electrical key transmitter to rectify the defect at the earliest.
- (viii) Normal working will be resumed only after S&T staff repairs the electrical key transmitter and reconnection/fit memo for the same.
- (ix) After rectification, the Emergency Key shall be replaced in the Emergency Key Box

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and resealed by the S&T maintainer.

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

- (i) If the gate key cannot be extracted from EKT-1 the gateman must immediately inform the 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 trains as prescribed for non-interlocked gates should be adopted.
- (iii) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass the trains on hand signals.
- (iv) Station Master on duty shall issue caution order to the Loco Pilot of a departing train.
- (v) He shall also advise the Station Master at the dispatching end under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) station master will advice S&T staff responsible for electrical key transmitter to rectify the defect at the earliest.
- (vii) Normal working will be resumed only after S&T staff repairs the electrical key transmitter and reconnection/fit memo for the same.
- (viii) After rectification, the Emergency Key shall be replaced in the Emergency Key Box and released by the S&T maintainer.

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

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relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.

- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstructions.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco Pilot of all train to proceed cautiously, and pass the reception / departure signal at 'ON' position on green hand signal of the gateman, 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 same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection / fit memo for the same.

8. Obstruction on the Track near Level Crossing:

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

APPENDIX 'A' STATION WORKING RULES OF DUSI STATION
SPECIAL CLASS L.C. GATE AT KM 756/19-21

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-431
2	Engineering or Traffic gate		Engineering Gate ('C'-Class)
3	Under control of station master or permanent way inspector.		SSE(P)CHE
4	Location at Km.		KM. 756/19-21
5	At station		-
6	In between station		DUSI-PDU
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	:	Non-Interlocked
11	Means of Interlocking	:	Non-Interlocked
12	Provision of gate single at Km.	:	i) Up Line : Nil ii) DN Line : Nil
13	Signaling arrangement	:	-
14	Means of communication Telephone.	:	Telephone with DUSI Station
15	Width of the level crossing gate	:	5.5 M
16	Type of road	:	Others
17	Name of road	:	Kintali Belaman Road
18	Metalled /Non-Metalled	:	Metalled
19	Approach road	:	Metalled
20	Width of the road	:	5.5 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	:	Coupled Lifting Barriers
26	Length of check rails	:	8.5 M
27	Road surface in between level crossing gates.	:	Level C.C Block

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- | | | | |
|----|---|---|---------------------|
| 28 | Length of rumble strip/ speed breakers. | : | 5.5 M |
| 29 | Road signs | : | Provided |
| 30 | Speed breakers indication board | : | Provided |
| 31 | TVU: | : | 21169 May-2012 |
| 32 | Census next due on | : | May-2015 |
| 33 | Demarcation for placement of detonators. | : | Provided |
| 34 | No. of gateman working | : | 2 |
| 35 | Nearest Railway Medical Assistance | : | Rly Health Unit CHE |
| 36 | Nearest Private Medical Assistance available (if any) | : | CHE |
| 37 | List of equipment available (Yes/No) | : | Yes |

1.2 **EQUIPMENT:**

Items	<u>Quantity / Numbers</u>
1. Hand Signal Lamp Tri Colour	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.

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.

Station Working Rules of DUSI Station

- | | | |
|-----|--|-------|
| 20. | Basket | 1 No. |
| 21. | Whistle | 1 No. |
| 22. | Wall Clock | 1 No. |
| 23. | A small size chin for use in cse of failure of gate boom/Leaf Lock | 1 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 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 Working Instructions incorporating local operational requirements. Whenever gate is to be closed the procedure discussed in Para 2a of annexure-iv(i) to (v) shall be followed.

1.5 DUTIES OF GATEMAN:

1. ALERTNESS:

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

2. POSITION DURING PASSAGE OF TRAINS:

During passage of trains, gateman will stand in the manner indicated below:

- i) Gateman will stand alternatively in front of the gate-lodge facing the approaching train.

Station Working Rules of DUSI Station

- 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.

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- 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) On those Meter Gauge sections where trains run at more than 75 KMPH, detonators shall be placed at a distance to be specified under Special Instructions by the Administration.

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- viii) 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.
 - ix) 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:**

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- 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 – IV

WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES, NON-INTERLOCKED, PROVIDED WITH TELEPHONE, WITH NORMAL POSITION ‘OPEN 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 Working Instructions incorporating local operational requirements. Whenever gate is to be closed the procedure discussed in

Station Working Rules of DUSI Station

Para 2a of annexure-iv(i) to (v) shall be followed.

2. **Exchange of Private Number:**

(a) When Gate is connected with the station at the dispatching end:

- (i) Station Master at the dispatching end shall advise the gateman the number, description, direction and expected time of the passage of the train at the gate, under exchange of private number.
- (ii) Such advice shall be given before taking 'OFF' departure signals or giving an authority to proceed to the LP.
- (iii) The gateman on receipt of the advice shall close the gate well in time and confirm the same, under exchange of private number.
- (iv) Station Master will lower the departure signals after getting the private number of the gateman.
- (v) Gate once closed for road traffic must on no account be opened unless this is authorised by the Station Master, under exchange of private number.

(b) When Gate is connected with the station at the receiving end:

- (i) Station Master at the dispatching end shall advise the Station Master at the other end the number, description, direction and expected time of passage of the train at the gate, under exchange of private number.
- (ii) Such advice shall be given before obtaining line clear.
- (iii) Station Master at the receiving end shall in turn convey the same advice to the gateman, under exchange of private number.
- (iv) Gateman shall close the gate and thereafter give his private number to the Station Master
- (v) Only then shall the Station Master at the receiving end grant line clear to the Station Master at the dispatching end.
- (vi) Gate once closed for road traffic must on no account be opened unless this is authorised by the Station Master, under exchange of private number.

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:

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- (i) Station Master at the dispatching end shall issue a caution order to the LP before dispatching a train in the block section from his end.
- (ii) The caution order should advise the LP to whistle continuously and approach the gate cautiously.
- (iii) The LP should be instructed to pass the gate cautiously, on being hand signaled by the gateman. If hand signal is not seen, LP should be prepared to stop short of the gate and depute his ALP to see the condition of the gate. If the gate is closed, the ALP must close the gate and then give the all right signal. In the absence of the ALP, the LP may take the assistance of the Assistant Guard / Guard and shall stop clear of the level crossing to pick up the ALP who will reopen the gate for passage of road traffic.
- (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 driver before dispatching a train in the block section from his end.
- (vi) Station Master shall also advise the gateman through gangman / patrolman or LP 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 defect at the earliest.
- (viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection / fit memo for the same.

4. Failure of Lifting Barriers:

- (i) When the gate cannot be closed due to failure of lifting barriers, the gateman 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 driver of the approaching train.
- (v) Station Master on duty shall issue caution order to the LP of a departing train.

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- (vi) He shall also advise the Station Master at the dispatching end, under exchange private number, to similarly issue a caution order to the LP before dispatching a train in the block section from his end.
- (vii) He should also advise maintenance staff responsible for maintenance of the lifting barriers to rectify the defect at the earliest.
- (viii) Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection / fit memo for the same.

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 fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (ii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defect / obstruction at the gate, under exchange of private number.
- (iii) Station Master on duty shall be advised to put the reception / departure signals back to 'ON' position, if taken 'OFF' for a train.
- (iv) If there is no response from the Station Master after 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 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 LP 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.

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- (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, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

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

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

1 BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:

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

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

The Operator Console cum Visual Display Unit (VDU) is provided for operation of Signals, Points, L.C Gates, Crank Handles, Siding & other controls etc. A Mimic yard diagram based on SI plan no. SI/23007 Alt-'G' will be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the Station yard mimic diagram of VDU will be dynamically updated.

2.1 SYSTEM OVERVIEW:

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

2.2 An additional VDU connected with a computer is provided as stand by arrangement in case of failure of the working operator console. In case of failure of the working operator console the system shall switch over to the stand by VDU automatically.**2.3 ICONS AND INDICATIONS PROVIDED ON THE VDU**

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

SL. NO.	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1	SM Key	Yellow light when key is 'IN'	Ensures operation of VDU by authorized person	Protected by pass word
2.	---	Emergency Route release - UP & DN	Flashing indication appears when Emergency route release operation is initiated.	--
3.	---	Emergency Gate release	Flashing indication appears when Emergency gate release operation is initiated.	
4.	Emergency Point operation key	Yellow light when key is 'IN'	Ensures emergency point operation by authorized person.	For each operation concerned counter shall register one count higher.
5.	---	System indication Central – On/Off	Indicates System 'A' or 'B' is in working mode	--
6.	---	System indication End – Goomty		
7.	Point failure Ack. Option/ Menu	Yellow	Flashing indication appears when any point fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. After verification at site inform S&T staff Immediately.
8.	Signal failure Ack. Display option/ Menu	Yellow	Flashing indication appears when any signal fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. Inform S&T staff Immediately.
9.	CH-1, CH2 and CH3 button	Yellow lamp indicates 'KEY IN'. Red lamp indicates 'CH LOCKED'	In normal condition yellow lamp will be lit. Whenever the crank handle is locked in route or otherwise red indication will glow.	

10.	DN Reset key and button (PDU end)	Yellow-Power on Green-prep reset	SMhas to follow 'Key In' procedure followed by left click on the button icon to reset LVCD Axle counter.	This operation is required for Resetting of LVCD Axle Counter of Concerned Section. For each operation concerned counter shall register one count higher.
11.	UP Reset key and button (PDU end)	Yellow-Power on Green-prep reset		
12.	DN Reset key and button (CHE end)	Yellow-Power on Green-prep reset		
13.	UP Reset key and button (CHE end)	Yellow-Power on Green-prep reset		
14.	UP Block release button	Yellow – Prepared for Block release.	On getting indication SM shall left click on the button icon which shall release Block Handle.	After complete arrival of train this will be activated
15.	DN Block release button	Yellow – Prepared for Block release.		
16.	L.C.Gate control-31 buttons	Yellow lamp indicates 'Gate Closed'. Red lamp indicates 'Gate LOCKED'.	SM shall right click on the button icon to select menu to Transmit / Receive/ emergency operation of gate as required.	In case of emergency operation 'Emergency gate release' indication will appear. For each operation concerned counter shall register one count higher.
17.	Sdg Control-29 & 30	Yellow lamp indicates 'KEY IN'. Red lamp indicates 'Siding LOCKED'.	SM shall right click on the button icon to select menu to Transmit / Receive/ of gate control as required.	
18.	Counter	-	As and when required SM shall point the curser on the counter icon and right click on it. A drop down menu will appear indicating all the counters available in the	-

			system. SM shall select the required counter on the menu and can read the latest counter reading.	
19.	Line Block button	Red when blocked	SM shall point the cursor on the icons provided on the berthing track and right click. One drop menu will appear indicating line blocked and un-blocked, SM has to select the required menu.	When line block is selected the concerned berthing portion of track will appear as thick Red line.

3.0 OPERATIONAL PROCEDURE THROUGH VDU AND INDICATIONS

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

3.1 ELECTRONIC INTERLOCKING (E.I) SYSTEM INDICATIONS

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

Please insert photo

3.2 OPERATION PROCEDURE OF SM KEY

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



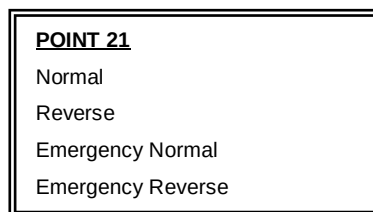


Enter the USER NAME and PASSWORD and click the OK button. Now the VDU is ready for use & the entire yard can be controlled from the VDU

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

3.3 OPERATION AND INDICATION OF POINT

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



3.3.1 REVERSE TO NORMAL OPERATION

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

3.3.2 NORMAL TO REVERSE OPERATION

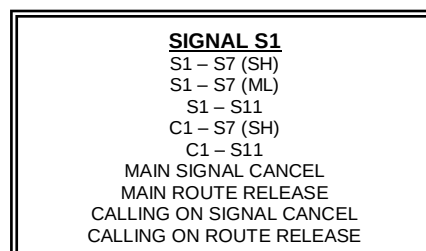
Track the pointer to REVERSE menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to Reverse.

3.3.3 POINT INDICATIONS

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

3.4 PROCEDURE FOR SETTING OF ROUTES AND TAKING OFF SIGNALS

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



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

3.4.1 **SETTING A ROUTE AND ITS INDICATIONS**

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

3.4.2 **SHUNT SIGNAL OPERATION:**

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

3.4 **CALLING ON SIGNAL OPERATION**

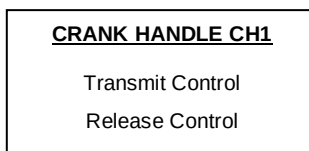
The same procedure as main signal has to be followed as explained above. To set the signal route for CALLING ON signals SM on duty shall select the desired route and left click on the same after a train occupies the approach track circuit in immediate rear of the stop signal. The signal is cleared after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

3.5 **CRANK HANDLE CONTROL OPERATION**

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



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



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

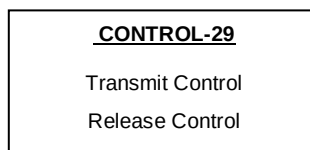
A Crank handle locked indication (Red) will appear when the particular point is on the signal route set over it or engaged in route setting in any other way.

3.6 **SIDING CONTROL OPERATION:**

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



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

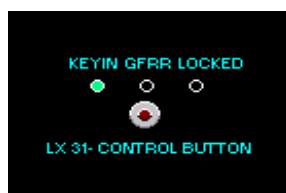


For Transmitting the Siding Control KEY to the field personnel SM on duty has to click transmit control menu. After transmission the KEY IN indication will start flashing, now the KEY can be extracted from the RKT. After extracting the key from the RKT, the key IN indication will disappear. When the Siding point operation is over, after putting the KEY in the RKT, A KEY IN flashing indication will appear on the VDU, Now the SM has to Release the control for the Steady indication by clicking release control menu

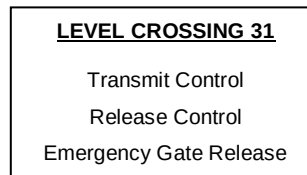
A Siding Control locked indication (Red) will appear when a route is set over the particular Siding point or in some manner it is involved in route setting procedure.

3.7 **LEVEL CROSSING GATE OPERATION**

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



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



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

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

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

3.8 OVERLAP TIME RELEASE (WHITE LIGHT):

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

4.0 EMERGENCY OPERATIONS:

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

4.1 CANCELING A ROUTE/ EMERGENCY ROUTE RELEASE

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

in a register.

4.2 EMERGENCY NORMAL OPERATION OF POINTS

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

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

4.2.1 NORMAL OPERATION

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

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

4.2.2 EMERGENCY REVERSE OPERATION OF POINTS

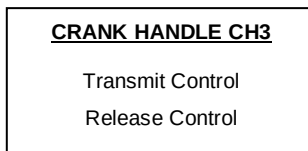
Before doing the emergency operation an Emergency Point Operation Key is to be made 'KEY IN' by clicking the 'KEY IN' menu. The user name and password is to be logged in. The user name of this station is 'ECOR' and password of this station is DSI. Emergency reverse menu to be clicked. Track the pointer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

4.2.3 EMERGENCY CRANK HANDLE RELEASE OPERATION

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



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



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

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

4.3 EMERGENCY GATE OPERATION

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

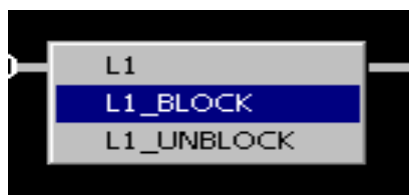
The counter will increment the number for each and every such action and also, this number should be recorded by the SM on duty who shall record the details of the Emergency Gate Operation along with the latest counter no. in a register.

4.4 LINE BLOCK AND UNBLOCK (REMINDER COLLAR):

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

4.4.1 LINE BLOCK

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



4.4.2 LINE UNBLOCK

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

5.0 PROCEDURE FOR RESETTING OPERATION OF LVCD (DIGITAL) AXLE COUNTER IN SECTION DUSI-PDU AND DUSI-CHE.

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

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

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



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



Move the Cursor pointer near to the Axle Counter Reset push button icon, and click left button of the mouse and select “**Reset**”. In VDU ‘**Power on**’ indication will appear above the reset push

button and it will remain for 10 sec. This action will be recorded in a counter. The counter will increment the number for each and every such action and also, this number should be recorded by the SM manually in a register.



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

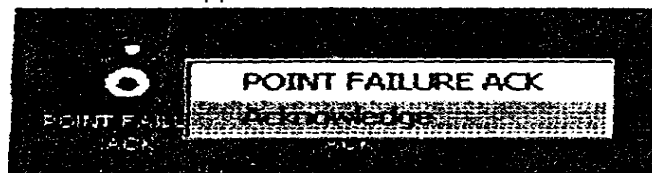


The Piloting In or out is mandatory for completion of Axle counter reset operation.

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

6.0 **POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND POINT FAILURE ACKNOWLEDGEMENT**

Whenever there is failure of point due to non-setting, point failure indication flashing light appears near the point button icon along with point failure Buzzer. The buzzer stops when the point failure acknowledgement button icon is clicked, but the flashing light above the ACK button shall continue to glow. The flashing light at the concerned point zone can identify the defective point. After the failure is rectified, the flashing light above the ‘POINT FAILURE ACK’ button will disappear.



6.1 **SHOWING OF COUNTERS**

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

1. Emergency Route Release.
2. Emergency Point Operation.
3. Calling On-Counter.
4. Emergency Gate release.
5. LVCD axle counter resetting for section DUSI-PDU both UP & DN
6. LVCD axle counter resetting for section DUSI-CHE both UP & DN
7. 2AXT resetting counter.

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

7.0 TRACK CIRCUITS

All the five berthing Lines are track circuited from Home signal to Advance starter signals at either direction of the yard. Approach Track Circuit (7 Rail lengths) for Calling-on signal are also provided in rear of the Home signals in both directions. In addition there are (5 Rail length) track circuits beyond Advanced starter Signals in both the directions for replacement of Last Stop Signal. Indications for the above track circuits are available on VDU at SM office. Yellow strip on VDU indicates 'ROUTE IS SET AND TRACK CLEAR' and Red strip indicates 'TRACK OCCUPIED CONDITION'.

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

8.0 AXLE COUNTER

Entire Block Section between DUSI-CHE and DUSI-PDU are provided with Analog Digital axle counter as Last vehicle Checking Device.

For SEC: DUSI-CHE, a pair of Digital axle counter is provided between DUSI-CHE (Dn LVV DUSI-CHE) on Dn line, one just beyond Dn Advanced starter signal No 14 of DUSI and another one on 2T2 track circuit beyond Dn Home Signal No.2 of CHE. Similarly a pair of Digital axle counter is provided between CHE - DUSI (Up LVV CHE-DUSI) on up line, one just beyond Up Advanced starter signal No. 17 of CHE and another one on 1T2 track circuit beyond Up Home Signal no. 1 of DUSI.

For SEC: DUSI-PDU, A pair of Digital axle counter is provided between DUSI-PDU (Up VV DUSI-PDU) on Up line one just beyond Up advanced starter no. 13 of DUSI and another on 1T2 track circuit beyond the Up Home signal No 1 of PDU. Similarly a pair of Digital axle counter is provided between PDU-DUSI on down line one just beyond Down Advanced starter signal No 14 of PDU and another one just beyond the Up Home signal No 2 of DUSI.

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

After complete arrival of the train the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of a train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR.14.3 is to be followed. The axle counters are interlocked with the respective block instruments for that section. If Axle Counter fails, Advanced Starter signals shall not come to 'OFF' and the concerned instrument shall remain locked in last operated position for section DUSI - PDU and for section DUSI - CHE.

A resetting arrangement for resumption of the system, in case of failure of Axle Counter, has been provided in the SM office of the adjacent Block stations. After being assured by both the

SM that the last vehicle has arrived completely at the receiving station, the resetting procedure shall be initiated after exchanging Private Number vide G&SR 4.17, 4.17.01.

(Details of resetting procedure given in APPENDIX-'B' under para 5.0 of this SWR)

NOTE:

Before taking off reception and dispatch signals for UP and DN directions the SM on duty should ensure that the entire route including overlap and berthing portion is clear of all obstructions by observing the Track indication/Axle counter indication. The indication of track circuit / Axle counter shall exhibit Red Light when track is occupied and Yellow light when track is clear and route is set. There will be no track indication when any route is not set.

9.0 TAKING OFF CALLING-ON SIGNAL

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

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

9.2 RELEASE/CANCELLATION OF ROUTE

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

NOTE:

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

9.3 REPLACEMENT OF SIGNALS TO 'ON'

Signals are replaced to 'ON' automatically by the passage of a train beyond the signal. It will not be possible to re-clear the signal again unless the due process for clearing the signal is repeated again. For replacement of any signal to 'ON' position manually, the SM shall follow SR. 3.36.02.

9.4 INTERLOCKING OF SIGNALS

DN Advanced starter is interlocked with DLBI of section DUSI – PDU and Up advanced starter signal is interlocked with DLBI of section DUSI – CHE in Line Clear position.

The Block Instruments cannot be made normal unless the respective Home signal is put back to 'ON' and the respective Block Section monitored by Axle Counter is clear of

trains (LVCD). Signals once taken 'OFF' can be put back to danger in case of emergency by following Para No.3.2 of Appendix-B even when the SM's key is withdrawn from VDU.

9.5 PILOTING OF TRAINS IN TO STATION YARD

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

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

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

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

NOTE:

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

9.6 PILOTING OF TRAINS - OUT OF STATION YARD

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

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

9.7 SHUNTING:

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

10.0 VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAIN INTO STATION YARD

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

11.0 HOT AXLE SIDINGS:

- a) One Hot Axle siding takes off from Line no.3 at North end of the yard and terminates towards Station side. The siding is isolated by the derailing switch. The entrance point and corresponding derailing switch is coupled and operated by an arc lever provided at site. Hand plunger lock fitted at the entrance point is unlocked by a key (N) released from RKT which is transmitted through control no. 29 from VDU.
- b) Another Hot Axle siding takes off from Line no.2 at South end of the yard and terminates towards station side. The siding is isolated by the derailing switch. The entrance point and corresponding derailing switch is coupled and operated by an arc lever provided at site. Hand plunger lock fitted at the entrance point is unlocked by a key (M) released from RKT which is transmitted through control no. 30 from VDU.

12.0 CRANK HANDLING/EMERGENCY OPERATION OF POINTS:

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

13.0 OBSERVATION OF TRACK CIRCUIT AFTER STABLING OF TRAINS ON RUNNING LINES

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

14.0 LOCKING OF RELAY ROOM

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

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

15.0 MAINTENANCE OF S & T INSTALLATION AND ADHERENCE TO MAINTENANCE SCHEDULES

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

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

16.0 PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF AN INTERLOCKING GEAR

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

17.0 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE

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

18.0 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING

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

19.0 PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:

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

20.0 EMERGENCIES:

Notwithstanding, anything contained in the aforesaid para as when equipment is found defective and unsafe for passage of trains, the Signal and Telecom staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of the defect or damage to the interlocking installation to the Station master and take the Station Master's

acknowledgement. After this, the usual practice of exchange of disconnection memo and reconnection memo can follow. The Station Master must act promptly on such messages and take adequate precaution treating the S&T installation as defective and pass trains over the affected interlocking equipment's according to extant instructions as contained in GR and SR.3.77.

21.0 PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL POINTS AND USE OF EMERGENCY CRANK HANDLE

- 21.1** Whenever a Signal or a Point become defective any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at the Station.
- 21.2** In case of failure of Signal or a Point and in case the Point 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 riveted to the Key of HKT. This Key along with Crank Handle can be released from the HKT by pressing the Common HKT Push Button after cutting the seal between HKT and the Crank Handle. The Station Master on duty in case of Point Motor failure will take out the Crank Handle set the Point manually by inserting Crank Handle on the Motor.
- 21.4** When the Crank Handle is removed from HKT for operation of the defective Motor Operated Points, the responsibility for its safe custody re-sets with the SM on duty till it is replaced back in HKT and sealed by Signal Maintainer
- 21.5** The case of failure of Motor Operated Points should be promptly reported to the concerned Signal Inspector/ESM for immediate rectification
- 21.6** Whenever an emergency Crank Handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and than handover to him the emergency Crank Handle for the Points concerned. All the Points will be treated as defective till the Emergency Crank Handle is returned back to Station Master on duty.
- 21.7** Before parting with the Emergency Crank Handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.

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

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

IMPORTANT NOTE:

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

22.0 INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS

22.1 INTERLOCKING WITH HOME SIGNALS

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

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

22.3 The Down advanced starter signal is Electrically interlocked with DLBI of section DUSI-CHE so that this Signal can not be taken OFF until the Handle of the concerned Block Instrument is in 'LINE CLEAR' position.

22.4 SUSPENSION OF LAST STOP SIGNALS

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

When the Double line block instrument for section DUSI-SRIKAKULAM ROAD is suspended with its handle in any position for whatever reason the concerned Last Stop

Signals controlled by the DLBI must be treated as suspended and trains shall be Piloted Out.

23.0 NORMALISATION OF THE BLOCK AXLE COUNTER AND OF BLOCK WORKING BY RESETTING FEATURE

23.1 Digital Axle Counters are provided on both Up and Down line Block Sections between DUSI-SRIKAKULAM ROAD and DUSI - PONDURU.

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

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

23.4 No train shall be allowed on signal to leave a station in any particular direction unless:- Track clear indication is available for the relevant Axle Counter track circuited portion and Last Stop Signal is taken OFF. [Refer Para No:5 of appendix 'B' for procedure of resetting of LVCD Axle counter].

24.0 TELECOMMUNICATIONS:

As per para (5) of the general portion of this SWR.

25.0 POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS

Same as para 4.3 of general portion of SWR.

26.0 WORKING OF INTEGRATED POWER SUPPLY TIPS], INDICATIONS & ACTION TO BE TAKEN BY SM 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 SM 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. The available traction/local supply is fed to the IPS through auto-change over switch provided in IPS.
- 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 SM on duty is tabulated below.

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

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

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

APPENDIX 'C' TO STATION WORKING RULES OF DUSI STATION

ANTI COLLISION DEVICE [[RAKSHA KAVACH]

NIL

(B.MADHU VENKATESWARLU)
DSTE / WAT

(K.GANESH KUMAR)
Sr.DOM (G) / WAT

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

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

1.0 STATION MASTER (IN CHARGE):

- i) He is responsible for trains passing during his shift.
- ii) He is responsible for the general and satisfactory working of the station and for the efficient discharge of duties by staff working under him.
- iii) He shall keep all Rule books, Registers, Files and documents neat and up to date.
- iv) He shall ensure that all equipment, apparatus, and instruments including signaling and interlocking gears and fittings are kept clean and oiled by S&T officials.
- v) His special attention is drawn to Chapter-II of G&SR and GR 5.01 to 5.08 with relevant SRs and O.M. Chapter-2. 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).
- vi) He shall promptly attend to accidents and report them.
- vii) 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:

- i) He is responsible for trains passing during his shift.
- ii) He shall promptly bring to the notice of SM incharge all irregularities and accidents in course of his shift duties.
- iii) During the absence of SM I/C, the duties of the Station Master will devolve on him.
- iv) He shall follow SR 3.68.01(c) and (d) SR 14.07.1 and OM Chapter-2.
- v) His special attention is drawn to Chapter-2 of G&SR 1976 and GR 5.01 to 5.08 with relevant SRs.
- vi) As an assistant to SM I/C, he shall carry out the instructions given from time to time.

3.0 TRAFFIC POINTS MAN :

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

4.0 TRAFFIC GATE MAN:

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

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

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

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

Sl. No	Description	Quantity
i)	Detonators	20 (For station) 10 (For LC gate)
ii)	LED based Tri Colour flashing torch.	3(1 Spare)
iii)	Hand Signal Flags	3(1 Spare)
iv)	Safety chains with Pad locks	6
v)	Clamps with Padlocks	8
vi)	Skids	5
vii)	Wedges	4
viii)	Fire & Sand buckets	6
ix)	Fire Extinguishers	2
x)	Line blocking collars	6
xi)	Motor trolley on line board	2
xii)	Block suspension board	2

(B.MADHU VENKATESWARLU)
DSTE / WAT

(K.GANESH KUMAR)
Sr.DOM(G) / WAT

EAST COAST RAILWAY
WALTAIR DIVISION

APPENDIX- 'G'
TO
SWR
OF
DUSI STATION

STATION WORKING RULES FOR 25 KV A.C ELECTRIC TRACTIONDUSI 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. TRD/WAT/SWR/229/12 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-131	755/23	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 or such Danger Boards have been provided at each stations.

10. PROTECTION AT THE TIME OF POWER BLOCK :

- i) All sections over which a power block has been granted shall be protected against the entry of Electric Locomotives with pantograph raised from either end during the period (GR 17.04) and ACTM 20620, 20621 to 20627 Vol.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. FIRE : Regarding Fire on or adjacent to any Electrical equipment refer GR 6.10 & SR there to

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

23. AMENDMENTS FOR SUPPLEMENTARY CORRECTION SLIPS :

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

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

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

OPERATING STATION WORKING ON A.C. TRACTION AREA.

DO(s) AND DON'T(s)

A) FOR ALL STAFF :

(a) DO(s) :

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

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

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

Sl no	Description of Electrified section	Steps/Precautions to be taken		Sequence of switching operations	
		Longitudinal Protection	Transverse Protection	For granting Power block.	For restoring Power block.
1.	2.	3.	4.	5.	6.
1.	A.SECTOR 1) Between Ponduru/FS – Urlam/SP on UP & DN line. (10202,10602,10604&10606 and 10301,10303,10501 10503, 10505, X-214 and X-363)	1) Movement of Electric trains/Electric locos shall not be permitted into section of Dusi – Chipurupalli & Dusi – Ponduru on UP & DN lines.	Nil	1) Ensure no electric loco is stabling with its panto-raised position. 2) Ensure BM-109 & 110 are in open position at Urlam/SP. 3) Open BM-102 & 103 at Ponduru/FS.	1) Close BM-102 & BM-103 at Ponduru/FS.
2	B.SUB-SECTORS 1) UP Sub -sector between Ponduru/FS to Dusi/SSP on UP line. (ES Nos. 10301 & 10303).	1) Line clear shall not be obtained from Ponduru for trains on UP line 2) Line clear shall not be granted to Srikakulam Road for trains on UP line 3) UP trains shall not be admitted into yard. 4) UP trains shall not be despatched from yard. 5) Necessary UP reception & UP despatch signals shall be kept at “ON”	1) Points No.21A&B shall be kept in normal Position.	1) Open BM-103 at Ponduru FS. 2) Open BM 105 at Dusi/SSP.	1) Close BM 105 at Dusi/SSP. 2) Close BM-103 at Ponduru/FS.

DOM (G) / WAT

SR.DEE / TRD / WAT

3	2) DN Sub-sector between Ponduru/FS – Dusi/SSP on DN line. (E/S No. 10202)	1) Line clear shall not be obtained from Srikakulam Road for trains on DN line. 2) Line clear shall not be granted to Ponduru for trains on DN line 3) Necessary DN reception and DN despatch signals shall be kept at “ON”.	NIL	1) Open BM-102 at Ponduru/FS. 2) Open BM-106 at Dusi/SSP.	1) Close BM-106 at Dusi/SSP. 2) Close BM-102 at Ponduru/FS.
4	3) UP Sub -sector between Dusi/SSP to Urlam/SP on UP line. (E/S Nos. 10501, 10503,10505, X-214&X-363).	1) Line clear shall not be granted to Srikakulam Road for trains on. UP Line 2) There shall not be any shunt movement at North end of the yard on UP lines 3) Necessary UP reception & shunt signals shall be kept at “ON”.	1) Points No.21A&B shall be kept in normal Position.	1) Ensure BM-109 is in open position at Urlam/SP. 2) Open BM-108 at Urlam/SP. 3) Open BM-105 at Dusi/SSP	1) Close BM-105 at Dusi/SSP 2) Close BM-108 at Urlam/SP.
5	4) DN Sub -sector between Dusi/SSP to Urlam/SP on DN line. (E/S Nos. 10602, 10604,10606)	1) Line clear shall not be granted to Srikakulam Road for trains on. DN Line 2) There shall not be any shunt movement at North end of the yard on DN lines 3) Necessary DN reception & shunt signals shall be kept at “ON”.	1) Points No.21A&B shall be kept in normal Position.	1) Ensure BM-110 is in open position at Urlam/SP. 2) Open BM-108 at Urlam/SP. 3) Open BM-106 at Dusi/SSP	1) Close BM-106 at Dusi/SSP 2) Close BM-108 at Urlam/SP.

DOM (G) / WAT

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6	C. Elementary Sections 1) UP E/S 10301 Between Ponduru /FS to SM-131 at location 755/23 of Dusi Yard on UP line.	1) Line clear shall not be obtained from Ponduru for trains on UP line. 2) UP trains shall not be despatched from Dusi yard to Ponduru on UP line. 3) There shall not be any Shunting movement on south end of the yard on UP lines 4) Necessary UP dispatch & shunt signals shall be kept at "ON".	NIL	1) Open BM-103 at Ponduru/FS. 2) Open BM-105 at Dusi/SSP 3) Open SM-131 at South end of DUSI yard at loc. No. 755/23. 4) Close BM-105 at Dusi/SSP	1) Close BM-103 at Ponduru/FS. 2) Close SM-131 at location No. 755/23 of Dusi yard
7	2) UP E/S No. 10303 between SM-131 at location No.755/23 to Dusi/SSP on UP Main, UP loop and Hot axle siding.	1) Line clear shall not be obtained from Ponduru for trains on UP line 2) Line clear shall not be granted to Srikakulam Road for trains on UP line 3) UP trains shall not be admitted into yard. 4) UP trains shall not be despatched from yard. 5) Necessary UP reception & UP despatch signals shall be kept at "ON"	1) Points No.21A&B shall be kept in normal Position.	1) Open BM-103 at Ponduru/FS. 2) Open BM-105 at Dusi/SSP. 3) Open SM-131 at location. No. 755/23 of Dusi yard. 4) Close BM-103 at Ponduri/FS	1) Close BM-105 at Dusi/SSP 2) .Close SM-131 at location. No. 755/23 of Dusi yard.
8	3) UP E/S No. 10501 Between Dusi/SSP to SM-132 at location No.751/3 of Srikakulam Road yard.on UP line.	4) Line clear shall not be granted to Srikakulam Road for trains on. UP 5) There shall not be any shunt movement at North end of the yard on UP lines 6) Necessary UP reception & shunt signals shall be kept at "ON".	NIL	1) Ensure BM-109 is in open position at Urlam/SP 2) Open BM-105 & BM-107 at Dusi/SSP. 3) Open BM-108 at Urlam/SP. 4) Open SM-132 at location No.751/3 of Srikakulam-Road yard. 5) Close BM-108 at Urlam/SP.	1) Close BM-105 & BM-107 at Dusi/SSP 2) Close SM-132 at location No.751/3 of Srikakulam-Road yard.

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1.	2.	3.	4.	5.	6.
9	4) DN E/S 10202 between Ponduru/FS to Dusi/SSP On DN Main, DN loop H/A siding and Dusi – Ponduru section.	1) Line clear shall not be obtained from Ponduru for trains on DN line. 2) DN trains shall not be despatched from DN main % DN loop of Dusi yard. 3) There shall not be any Shunting movement on north end of the yard on DN lines 4) Necessary DN dispatch, reception & shunt signals shall be kept at “ON”.	NIL	1) Open BM-102 at Ponduru/FS. 2) Open BM-106 at Dusi/SSP	1) Close BM-102 at Ponduru/FS. 2) Close BM-106 at Dusi/SSP
10	5) DN E/S No. 10602 Between Dusi/SSP to SM-133 at location No.749/16 of Srikakulam Road .on DN line.	1) Line clear shall not be obtained from Srikakulam Road for trains on DN line. 2) DN trains shall not be despatched from yard. 3) There shall not be any shunt movement at North end of the yard on DN lines 4) Necessary DN dispatch & shunt signals shall be kept at “ON”.	1) Points No.21A&B Shall be kept in normal Position	1) Ensure BM-110 is in open position at Urlam/SP 2) Open BM-106 & BM-107 at Dusi/SSP. 3) Open BM-108 at Urlam/SP. 4) Open SM-133 at location No.749/16 of Srikakulam yard. 5) Close BM-108 at Urlam/SP.	1) Close BM-106 & 107 at Dusi/SSP. 2) Close SM-133 at location No.749/16 of Srikakulam yard.

NOTE: -

- 1) For any unusual movement of Electric locos, the Station Master on duty must refer to the working rule diagram from 25 kV AC traction of his station and ensured that there is no chance of energizing the section where power block has been granted.
- 2) Points leading to unwired tracks shall not be used for the movement of electric loco with pantograph raised.
- 3) Refer modified Drg. No.WAT/TRD/SWR/229/12

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