



EAST COAST RAILWAY

WALTAIR DIVISION

**STATION WORKING RULES
OF**

LADDA STATION

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EAST COAST RAILWAY

WALTAIR DIVISION

STATION WORKING RULES OF LADDA [LDX] [BROAD GAUGE]

No.WTP/5/SWR/LDX

Date of Issue:

Date brought in force:

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

(1) STATION WORKING RULE DIAGRAM:

- Station Working Rule Diagram No:- SI/WRD/23073 'Alt-D'
- CSTE/E.Co.Rly/DRG No:-SI-23242 'Alt-D'
- Date up to which corrected:

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

a)	Name of the station	LADDA (LDX)
b)	Class of station	'B' class
c)	Section	Vizianagaram-Raipur
d)	Double Line/Single Line / Multiple Line	Double line.
e)	Electrified/Non Electrified	Electrified
f)	Gauge BG/MG/NG	BG
g)	Railway	East Coast Railway
h)	Route	'D' Special
i)	Situated at	Km 350.087 KM
j)	Reckoned from	Raipur
k)	Operation	Centrally operated Domino type full fledged Panel
l)	Type of Interlocking	Standard III

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

S.No	Adjacent BlockStation	Distance	Direction
1.	RAYAGADA	8.0 KM	Raipur end
2.	JIMIDIPETA	6.9 KM	VZM end
3.	Provision of IBS	Nil	
4.	Automatic signal	Nil	
5.	DK station/Outlying sidings	Nil	
6.	Passenger halt	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' ends
LDX-RGDA DN Direction	The Advance block section commences at DN advanced starter signal No.12 of LDX.	Ends at facing point no. 32A of RGDA on Down line.

RGDA-LDX UP Direction	The rear block section commences at UP Advanced starter signal No.29 of RGDA.	Ends at Facing point No. 21A of LDX on UP line.
LDX- JMPT UP Direction	The Rear block section commences at UP Advanced starter signal No.13 of LDX.	Ends at BSLB of JMPT on UP line.
JMPT-LDX DN Direction	The advance block section commences at DN Advanced starter signal No.12 of JMPT.	Ends at BSLB of LDX on DN line.

2.4. GRADIENTS:

Station towards	Chainage		Inter distance	Gradient	
	From	To			
LDX- RGDA	UP	0.000 F/CSB	438.00M	438.00M	1 in 400 Raising
		438.00M	908.00M	370.00M	1 in 150 Raising
		908.00M	1395.50 M	487.50 M	LEVEL
		1395.50 M	Into section	---	1 in 100 Raising
	DN	Chainage		Inter distance	Gradient
		From	To		
		0.000 F/CSB	438.00M	438.00M	1 in 400 Raising
		438.00M	2972.00 M	2534.00 M	1 in 150 Raising
	2972.00 M	Into section	---	LEVEL	
LDX- JMPT	UP	Chainage		Inter Distance	Gradient
		From	To		
		0.000 F/ CSB	600.00M	600.00M	1 in 400 Falling
		600.00M	832.500M	232.50M	1 in 400 Falling
		832.50M	1129.50M	297.00M	1 in 100 Falling
		1129.50M	1790.00M	660.50M	1 in 130 Falling
		1790.00M	2115.28M	325.28M	LEVEL
	2115.28M	In to section	--	1 in 400 Falling	
	DN	Chainage		Inter Distance	Gradient
		From	To		
		0.000 F/ CSB	600.00 M	600.00 M	1 in 400 Falling
		600.00 M	832.50 M	232.50 M	1 in 400 Falling
		832.50 M	1914.50 M	1082.00M	1 in 150 Falling
		1914.50 M	2100.00 M	185.50 M	LEVEL
2100 M		In to Section	--	1 in 200 Falling	

2.5. LAY OUT:

A) RUNNING LINES IN THE MAIN YARD:

S No	Name of the Line	Electrified/ Non Electrified	Platforms with Length
1.	Line No.1(Common Loop)	Electrified	Rail Level (315.73 M x 6.1 M)
2.	Line No.2 (DN Main)	Electrified	--
3.	Line No.3 (UP Main)	Electrified	
4.	Line No.4 (UP Loop)	Electrified	Rail Level (315.73 M x 6.1 M)

B) SIDINGS:

-Nil-

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

S. No.	Name of the Line	Holding Capacity in CSL	Direction of movements
1.	Line No.1(Common Loop)	714 M (STR to STR)	a) Trains coming from JMPT and proceeding towards RGDA are DN trains. b) Trains coming from RGDA and proceeding towards JMPT are UP trains.
2.	Line No.2 (DN Main)	734 M (STR TO SB)	
3.	Line No.3 (UP Main)	762 M (STR TO SB)	
4.	Line No.4(UP Loop)	732 M (STR TO SB)	

2.5.2. NON-RUNNING LINES AND THEIR CAPACITY IN CSL:

-NIL-

2.5.3. ANY SPECIAL FEATURES IN THE LAYOUT:

--Nil--

2.6. LEVEL CROSSINGS:

Details of LC Gate are provided in Appendix-'A' portion of this SWR.

(3) SYSTEM AND MEANS OF WORKING:-

<i>System of Working in force</i>	Absolute Block System of Working.
<i>Double Line/Single Line/Multiple Line</i>	Double Line.
<i>Block Instruments</i>	a) LDX-JMPT Section: SGE type Double line Lock and Block Instrument. b) LDX-RGDA section: SGE type Double line Lock and Block Instrument.
<i>Co-operative/Non-Co-operative</i>	a) LDX-RGDA Section : Non-Co-operative. b) LDX-JMPT Section : Non-Co-operative.
<i>Block Telephones</i>	Attached with Block Instruments.
<i>Custody of Keys of Block Instruments</i>	SM is responsible for operation of the Block Instruments. The SM on duty is only the authorized person to operate the instruments and then keys shall be in the personal custody, vide G&SR 5.08 & 14.12 (a). Block Instruments is provided with double locking one key will be with SM on duty and other key will be with S&T maintainer.
<i>Telephone provided at IBS</i>	Nil

(4) SYSTEM OF SIGNALLING AND INTERLOCKING:

1.	<i>Standard of Interlocking</i>	Standard-III
2.	<i>Type of signaling</i>	MACLS
3.	<i>Mode of operating the signals</i>	Centrally operated Domino type full-fledged Panel.
4.	<i>Provision of Calling-On signals</i>	Calling-on signals are provided below Home signals signals (in both UP and DN Directions) as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b).

5.	<i>Provision of shunt signals</i>	Shunt back signals SH3(A/B)& SH4(A/B/C/D) are provided towards RGDA end and towards JMPT end of the yard respectively.
6.	<i>Emergency Cross over</i>	Nil
7.	<i>Track circuits</i>	Nil
8.	<i>Axle counters</i>	Entire Yard is provided with dual detection Multi Section Digital Axle Counter (MSDAC) in lieu of track Circuits. Provided High Availability Single Section Digital Axle counter (HASSDAC) for last vehicle verification between LDX-JMPT as "UDXT" on UP Line and "DRXT" on DN Line. For Section LDX -RGDA provided HASSDAC as "URXT" for UP Line and "DDXT" for DN Line.
9.	<i>Crank Handles</i>	When any point fails to operate normally by the Route Setting operation through SM Panel, it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual chapter-2, para-2.18 & 2.19 and Para No. 4.7 of Appendix-B. CH1: 21A/B. CH2: 22A/B. CH3: 23A/B & 26A/B. CH4: 24A/B & 25A/B.
10.	<i>Emergency Point operation</i>	Emergency point operation facility is provided to operate the point from the Panel Board in case of failure of point controlling track section. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose.
11.	<i>Block Instruments</i>	a) SGE type Double line Lock & Block Instruments are provided for block section LDX-RGDA & LDX-JMPT for Double line b) Telephone attached to Block instruments connecting the adjoining block stations concerned. c) 'ON' aspect of UP/DN Home & UP/DN Adv.str signals are proved in respective block instruments. d) Custody of block instrument keys: One key will be with SM on duty and the other with S&T maintainer.
12.	<i>Emergency Route Release operation</i>	This Panel 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. When it becomes necessary to alter the route after the

		signal has been taken off vide SR 3.36.02 (a), the concerned signal must be put back to danger by pressing the signal cancellation button and concerned signal button, the signal will immediately go to ON aspect. The precondition for route release is, the route should have been set and the signal has been put back to danger. Press the button on concerned Signal and " Route Release " button at a time. A white light will flash (UP or DN) indicating that the timer is working. After 120 seconds, the white light along with the white strip of light will disappear suggesting the route has been released. In case the route illumination (a white strip of lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised for rectification of fault. Each operation of emergency cancellation of route is recorded in the emergency route release counter by registering the next higher number. All such operations and the new number should be recorded in the station diary, train signal register and in the register meant for this purpose.
13.	<i>Emergency Crank Handle Release operation.</i>	Emergency crank handle release operation facility is provided to operate the point by using the crank handle in case of Route locked condition. For Emergency crank handle operation the procedure laid down in Para No.5.3 of Appendix-'B' shall be followed. Each operation of emergency crank handle operation shall be recorded in the station diary, train signal register and in the register meant for this purpose.

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

Custody of Relay room key and procedure for its handover and taking over between SM and S&T staff has to follow the procedure as per JPO issued by COM and CSTE vide No. JPO/02/2012 dated 29.08.2012. Relay room is provided with two independent locks. The key of one lock shall be in the personnel custody of Station Master on duty and the key of other lock shall be in the custody of S&T Maintainer. In the event of necessity such as for attending failure, or regular maintenance, on being requisitioned by S&T maintainer, SM shall hand over the key to the Maintainer. On completion of the work, maintainer shall lock the relay room and shall return the key to SM. The particulars of such transactions shall be entered by the SM in the relay room key register vide OM 2015 para No.13.16.

4.2. POWER SUPPLY:

The power supply arrangement for this station is described in detailed in the Para No.19 of APPENDIX-B.

(5) TELECOMMUNICATIONS:

- a) The station is connected to VZM-Tie Line 'B' Cabin control Circuit.

- b) The station is connected to VZM-Tie Line ‘B’ Cabin traction power control circuit.
- c) Railway Auto Telephone provided at the station is connected to Divisional Exchange at WAT through Exchange at RGDA.
- d) Telephones attached to Double line lock and block Instruments are connected to adjacent stations on either side.
- e) Hot Line Telephone communication is provided between LDX-JMPT and LDX-RGDA stations.
- f) Telephone communication is provided between Station Master on duty to East CH location and to West CH Location.
- g) LC Gate Telephone communication is provided between Station Master on duty and LC Gate No. RV-252 at Km No.347/7-5.
- h) 25w VHF set is provided at the station for emergency communication.
- i) The Station is provided with CUG telephone.

5.1. FAILURE OF COMMUNICATION:

- a) In the event of total failure of communications between the adjacent block stations SR 6.02.03 shall be observed for double line section for working the train.
- b) In the event of partial interruption/failure of communications between the adjacent block stations SR 6.02.06 shall be observed for working the train.

(6) SYSTEM OF TRAIN WORKING:

6.1. DUTIES OF TRAIN WORKING STAFF:

The duties of Train working operational staff are detailed in Appendix-‘D’ of this SWR.

6.1.1. TRAIN WORKING STAFF IN EACH SHIFT:

COMPLEMENT OF STAFF	STAFF IN EACH SHIFT
Station Superintendent/Station Master	1
Traffic Points Man	1

The above staff shall work as per roster issued from time to time by Divisional Railway Manager (P) and these rosters shall be conspicuously displayed in the Station Master’s office.

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

Station Master is solely responsible to ascertain clearance of line from Home up to Adv. Starter on concerned lines by indication on Panel board.

Sufficient Private Number books and identification number sheets in sealed covers shall always be kept in stock by SM under lock and key by maintaining register for this purpose.

6.1.3. ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:

All staff before taking up independent charge of their duties at this station shall, make a written declaration in the Assurance Register that they have read the SWR thoroughly and understood the system of working in force at the station and must sign such declaration.

No Railway servant shall be entrusted with any duty involving the safety of the public unless the SS/SM (In-Charge) is satisfied that the concerned staff is competent for the post. No Railway servant unless duly examined and certified shall be allowed to work the points and signals. The SS/SM (In-Charge) is responsible to see that all the staff are well conversant with the Station Working Rules of the Station and their signature obtained in the Assurance Register after he is satisfied that they have thoroughly understood the working Rules of the Station. In case of Class-IV staff, their signature/thumb impression must be obtained after explaining full about their duties and responsibility.

The SS/SM (In-Charge) is personally responsible for maintaining the Assurance Register and for obtaining declaration from the staff working under him. The Assurance Register must be maintained in two parts one for Group-'C' staff and other for Group-'D' staff & duplicate copy of the Assurance Register must be maintained and kept in the personal custody by the SS/SM (In-Charge).

Fresh assurance shall be obtained in the Assurance Register when:

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

6.2. CONDITIONS FOR GRANTING LINE CLEAR:

- a) The trains are worked under Absolute block system of working with Double line between LDX-JMPT & LDX-RGDA and MACLS signaling vide GR 8.03.
- b) Adequate distances for reception of trains in this station as follows.

Line No.	Up Trains		DN trains	
	From	To	From	To
Line No.1 (Common Loop)	UP Starter Signal No.9.	Up to the end of Sand Hump OR UP Advanced Starter Signal No.13.	DN Starter Signal No.8.	Up to the end of Overrun line OR DN Advanced Starter Signal No.12.
Line No.2 (DN Main)	----	. ----	DN Main Starter Signal No.10	DN Advanced Starter Signal No.12
Line No.3 (UP Main)	UP Main Starter Signal No.11.	UP Advanced Starter Signal No.13.	----	----
Line No.4 (UP Loop)	UP Starter Signal No.7.	Up to the end of Overrun line OR UP Advanced Starter Signal No.13.	----	----

6.2.1. ANY SPECIAL CONDITIONS TO BE OBSERVED WHILE RECEIVING ORDESPATCHING A TRAIN:-

--NIL--

6.2.1.1. SETTING OF POINTS AGAINST BLOCKED LINE:

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

Safety Point Alarm Unit (SPAU):

A safety Point Alarm is provided on the Panel Board with different indications:

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

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

The above precautions shall be taken in addition to the observance of other precautions [Refer SR 5.04.01 & SR 5.23.01].

6.2.1.2. RECEPTION OF A TRAIN ON BLOCKED LINE:

Trains are to be admitted on a blocked line, by taking off calling-on signal as per GR 5.09(2) (a) or if calling signal cannot be taken off, trains are to be piloted in on a written authority on Form T/509 given by SM on duty and delivered by a competent railway servant to the Loco Pilot of the train as per GR 5.09 (2)(C)(3)(4)(5) and SR 5.09.01.

6.2.1.3. RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

--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 SPECIAL CONDITIONS:**a) SPECIAL INSTRUCTIONS:**

--Nil--

b) SPECIAL RESTRICTIONS:

1. Shunting in the face of an approaching train is prohibited as per the conditions prevailed in terms of SR 8.09.02 (b) (ii) (b) towards JMPT end.
2. Shunting shall not be permitted towards JMPT end of the yard unless the section LDX-JMPT is blocked back and also the engine in leading towards the falling side of the gradient as per GR 5.20(b).

6.3. CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS: -

The SM on duty shall nominate a Clear line not only up to the Starter Signal but also for an adequate distance beyond it for reception of trains. (Refer GR. 3.36, 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/DESPACTH, CROSSING AND PRECEDANCE OF TRAINS:

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

1.	Reception of an UP train on Line No.1 setting overlap to Sand Hump (Common Loop).	AND	Dispatch of another UP train from Line No.3 Or 4.
2.	Reception of a UP train on Line No.4 setting overlap to overrun line (Common Loop).	AND	Dispatch of another UP train either from Line No.1 or 3.
3.	Reception of a DN train on Line No.1 setting overlap to overrun line (DN Loop).	AND	Dispatch of another DN train from Line No.2.

6.5. COMPLETE ARRIVAL OF TRAINS:

The entire block section between LDX -RGDA & LDX-JMPT on both UP & DN lines are provided with High Availability Single Section Digital Axle Counter.

For Section LDX -JMPT:

A Pair of High Availability Single section Digital axle counter is provided between LDX -JMPT and another one at just beyond DN Home signal no. of LDX and another on 2XT2 track section of LDX and another pair of High Availability Single Section Digital Axle Counter is provided between LDX-JMPT one at just beyond UP Advanced Starter signal No.13 of LDX and another on 1XT2Track section of JMPT for last vehicle verification.

For Section LDX-RGDA:

A Pair of High Availability Single section Digital axle counter is provided between LDX-RGDA one at just beyond UP advanced starter signal no.29 of RGDA and another on 1T2 track circuit of LDX and another pair of High Availability Single Section Digital Axle Counter is provided between LDX-RGDA one at just beyond DN Advanced Starter signal No.12 of LDX and another on 1T2Track section of RGDA for last vehicle verification.

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

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

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

Note:

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

6.6. DESPATCH OF TRAINS:

a) Dispatch of trains is governed by the provisions of General Rules 3.36, 3.38, 3.42, 5.11, 14.08& 8.01, SR 3.36.04(b), 3.42.04, BWM 2.07(5)(a)(b) and other relevant provisions of G & SR, BWM and SWR.

b) **DESPATCH OF TRAINS FROM NON-SIGNALLED LINE:**

Dispatch of trains from non-signalled line is governed by the provision of GR 5.11 and SR 5.11.01.

c) **ISSUE OF CAUTION ORDERS:**

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

6.7. TRAINS RUNNING THROUGH:

In addition to the procedure detailed in paras "Reception and Dispatch of trains" rules laid down in GR 3.40, 4.17, 4.42 with relevant SRs 3.42.02 (a) (iii) and other relevant provisions of G&SR, BWM, OM shall be followed. (Refer GR 4.1, 4.11(2)).

6.8. WORKING IN CASE OF FAILURE:

<i>Track Circuits</i>	In case failure of track circuits, the clearance of the concerned line should be ensured physically by the SM on duty before a train is piloted.
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<i>Axle Counters</i>	If the axle counter fails between the block sections, resetting procedure should be adopted as per Para 6.1 of SWR (APP-B). If the axle counter indication does not appear 'GREEN & continues to show 'RED' condition after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SE (signal) for their rectification.
<i>Block Instruments</i>	In the event of 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) and BWM 6.22.
<i>Reception of a train on obstructed line</i>	Trains are to be admitted on a blocked line, by taking off calling-on signal as per GR 5.09(2)(a) or if calling signal cannot be taken off, trains are to be piloted as per GR 5.09(2)(C)(3)(4) (5) and SR 5.09.01.
<i>Reception of a train on non-signaled line</i>	Nil
<i>Defective Signals</i>	Whenever signals become defective, the procedure laid down in GR 3.68 to 3.71 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 laid down in GR and the relevant SRs (Refer 3.49 (4), 3.69, 3.70, 3.71, 3.74 & 3.76).
<i>Defective Interlocking</i>	When interlocking becomes defective the SS/SM on duty shall be responsible and personally supervise the setting, clamping and pad locking of all required facing and trailing points for admission or dispatch of trains and procedure laid in GR 3.68 to 3.71 and SRs there to shall be followed.
<i>Defective/Damaged Points</i>	When any point fails to operate normally by the route setting operation or individually 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 the use of crank handle shall be followed. Procedure prescribed in GR 3.77 and relevant SR shall be followed.
<i>Defective IBS signal</i>	Nil

6.9. PROVISIONS FOR WORKING OF TROLLIES/ MOTOR TROLLIES/MATERIAL LORRIES ETC”:

- a) 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.

- b) Motor trolleys shall be worked as per GR 15.25 and SR thereto, BWM 5.39, 5.40, 5.41, 6.11(1)(2), 6.12, 6.13, 6.14(2)(a) and circulars and orders issued from time to time.
- c) Material Lorries shall be worked as per GR 15.27 and SRs thereto and in accordance with the provisions of Block Working Manual.
- d) Tower Wagon/OHE cars shall be worked as per GR 17.08 and SR thereto and BWM 6.11.

(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. 'Reminder collars' are to be placed on concerned route button and point's button. 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. [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 to 5.23, 8.05,8.06, 8.14 and 8.15 with relevant SR's and BWM 3.21 & 6.15 shall be followed.

All shunt movements shall be supervised by Guard/SM 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 whichever is applicable. The limit up to which shunting is permitted and the line involved must write on the shunting authority.

8.2. SHUNTING IN FACE OF AN APPROACHING TRAIN:

Shunting in face of an approaching train is prohibited on both ends vide GR 8.09.02 (ii) (a).

8.3. PROHIBITION OF SHUNTING, SPECIAL FEATURES IF ANY:

- i) Hand shunting is prohibited at both ends of the yard vide GR 5.20.
- ii) Fly shunting is prohibited at both ends of the yard vide SR 5.21.01 (c).
- iii) Shunting shall not be permitted towards JMPT end of the yard unless the section LDX-JMPT is blocked back and also the engine in leading towards the falling side of the gradient as per GR 5.20(b).

8.4. SHUNTING ON SINGLE LINE:

Not Applicable

8.5. SHUNTING ON DOUBLE LINE:

a)	Block back	The procedure of Block Back given in BWM 3.21 & 6.15 shall be followed
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b)	<i>Block Forward</i>	G&SR 8.05 and BWM 3.21 & 6.15 there to shall be followed.
c)	<i>During failure of Block Instrument</i>	Shunting in the block section in advance/in rear shall not be preformed unless the section is clear of all obstructions and the block section is Blocked back/Blocked forward as the case may be. SM shall fix the line block collars on respective Block Instrument.

(9) ABNORMAL CONDITION:-

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

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

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

- (i) The detailed Procedure for emergency operation of points by Crank Handle of motor operated points is mentioned in Para No.6.0, 6.2 and 6.3 of Appendix-'B' of this SWR.

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

(ii) PROCEDURE FOR EMERGENCY OPERATION OF POINTS WITH POINT ZONE TRACK CIRCUIT/AXLE COUNTER FAILURE AND EMERGENCY ROUTE RELEASE:

The detailed Procedure for emergency operation of points in case of failure of Point Zone track section is mentioned in Para No.10, 26, 26.1 and 26.2 of Appendix-'B' of this SWR.

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

c) CERTIFICATION OF CLEARANCE OF TRACK BEFORE CALLING-ON SIGNAL OPERATION IS INITIATED:-

Before taking off Calling -on signal during failure of track section, the route and the clearance of the track over which train would pass including fouling track showing Red shall also be verified by SM on duty.

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

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

9.1. TOTAL FAILURE OF COMMUNICATION:

- a) In the event of total failure of communication on double line, trains shall run on the authority to proceed without line clear in terms of SR 6.02.03.
- b) During partial interruption of communication, the rules laid in SR 6.02.06 shall be followed.

9.2. TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

In the event Single line working on double line section when one line is obstructed the trains shall work as per the provision laid down in SR 6.02.01.

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

- i). In the event of total failure of communication, trains shall run on the authority to proceed without line clear in terms of SR 6.02.03 on Double line section.
- ii). In the event of necessity to send a train to assist the crippled trains, SR 6.02.05 shall be followed.

(10) VISIBILITY TEST OBJECT:

The signals lights of DN Starter Signal No. 8 and UP Starter Signal No.9 of Line No.1 are earmarked to serve as visibility test object during day and night vide GR 3.61 (2) (b) (iii).

(11) ESSENTIAL EQUIPMENT AT THE STATION:

Details are given in Appendix-E.

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

- (i) During thick, foggy or tempestuous weather impairing visibility of the Signals the SM on duty shall initiate action to depute Fog signal man with detonators vide GR 3.61 in order to indicate the location of the station approach signals to the Loco pilot of an approaching train.
- (ii) The fog signal man shall be proceed to the 1st stop signal of the station and place one detonator at a distance of 270M from the 1st approaching stop signal towards the approaching train and another detonator at a distance of 10M from the 1st one and he shall stand 45M away from the detonator.
- (iii) The fog signal man shall be permanent employee, 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".
- (v) Details of supply of detonators available stock, use and testing etc., shall be maintained in the fog signal register of the station as per GR 3.64 and SRs there to.
- (vi) Names of fog signal man available at the station shall be exhibited in 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 EQUIPMENT PROVIDED AT THE STATION.
- APPENDIX-F : RULES FOR WORKING OF DK STATIONS, HALTS, IBH, IBS AND OUTLYING SIDINGS.
- APPENDIX-G : RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS.

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

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

1.	Number of Level Crossing Gate :	RV-252
2.	Engineering or Traffic Gate :	Engineering gate ('A' class)
3.	Under control of Station Master / Permanent Way Inspector:	SSE [P.Way]/RGDA
4.	Location at KM:	347/7-5 (347.155)
5.	At Station:	Mid Section
6.	In between stations:	LDX-RGDA
7.	BG/MG/NG:	BG
8.	Single line/Double line/Multiple line:	DoubleLine
9.	Normal Position:	Open to Road Traffic.
10.	Interlocked / Non-Interlocked:	Inter locked.
11.	Means of Interlocking	Inter locked.
12.	Provision of Gate signal at Kms.	i) UP line: 346.975. ii) DN line: 347.335
13.	Signaling arrangements:	Not Applicable.
14.	Means of Communication - Telephone / Bell etc	Telephone connection with SM/LDX.
15.	Width of level crossing gate:	5.5 M.
16.	Type of road (NH / SH / Others) :	Others.
17.	Name of Road :	Village Road
18.	Metalled / non-metalled :	CC Block
19.	Approach road :	WBM Road.
20.	Width of the road :	5.5 M
21.	Angle of road crossing (in case of the skew gates):	90°
22.	Road gradient (if any)	(i) North /East side: 1 in 30 (ii)South/West side: 1 in 30
23.	Road alignment (straight/curve)	i) North/East side: Straight ii)South/West side: Straight
24.	Provision of height gauges:	Provided
25.	Type of Barriers:	Lifting Barrier/Sliding Booms.
26.	Length of Check rails :	9.50 M
27.	Road surface in between L-Xing gates:	Level
28.	Length of Rumble strip / speed breakers:	5.5 M
29.	Road signs:	Provided
30.	Speed breaker indication board:	Provided
31.	TVU:	181499 of 18.10.2021
32.	Census next due on :	10/2024
33.	Demarcation for placement of Detonators:	Provided
34.	No. of Gatemen working:	3 (Two)
35.	Nearest Railway Medical Assistance	RGDA
36.	Nearest Private Medical Assistance available (if any):	PVP
37.	List of equipment available Yes / No:	Yes

1.2. EQUIPMENTS:

S N	Items	Quantity / Numbers
1.	LED based Flashing Tri Colour Hand Signal Lamp.	3Nos
2.	Hand Signal Flag Green	1 No with mounted stick
3.	Hand Signal Flag Red	3 Nos
4.	Banner Flag Red	3 Nos
5.	Posts for exhibiting red banner flag	2 Nos
6.	Spare chains with padlocks	2 with stop marker
7.	Detonators	10 in each case
8.	Gate lamps	2Nos
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 rod this may not be provided]
14.	Tin case for flags	1No
15.	Can for oil	1No
16.	Water port / Bucket	1No
17.	Canister for Muster Roll	1No
18.	Set of spare spectacles of gateman wearing glasses	1No
19.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1No
20.	Basket	1No
21.	Whistle	1No
22.	Wall Clock	1No
23.	A Small size chain for use in case of failure of gate boom lock	2No

1.3. RECORDS TO BE KEPT AT GATE LODGE:

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

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

1.4. MODE OF OPERATION:

Gate shall normally kept open to the road traffic whenever it is required to close the gate SM on duty shall inform the gate man on duty about the direction and description of the train intended to receive or dispatch. Gate man on duty shall ensure clearance of road traffic close and lock the gate. There after he will perform the procedure laid in item No. 3.4.

1.5. DUTIES OF GATEMEN:

1. **COMPETENCY:** Gatemen working at the gate should have competency certificate applicable to perform duty at this gate issued by the Section JE/SSE(P.Way).
2. **ALERTNESS:**The gate man shall be alert and be prepared to take immediate action, should danger be apprehended. Keys of the gate shall be in his personal custody.

3. POSITION DURING PASSAGE OF TRAINS:

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

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

4. ROUTINE DUTIES OF GATEMAN:

- a) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously.
- b) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrive and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- c) He shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- d) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- e) Gateman shall also be prepared to repeat any signal which guard may give to Loco pilot on walkie-talkie or in any other way.

- f) If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlock for securing the gate against road traffic. Gate man shall report to the station master, gang mate or permanent way inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- g) Gateman shall wear badge and prescribed uniform while on duty at level Crossing gate.
- h) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- i) Gateman shall work the gate as per gate working instructions and remain well conversant with this instruction.
- j) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- k) Gateman shall see that the channel for the flange of the wheel is kept clean.
- l) Gateman shall keep the road surface well-watered and rammed in case of unmetalled roads.
- m) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- n) 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.
- o) Gateman shall prevent tress passing by persons or cattle to the maximum extent.
- p) He should note down the registration number of the vehicle which damage the gate.
- q) Locking arrangement of gate should be checked daily.

5. ACTION IN CASE OF UNUSUAL OCCURANCE ON TRAIN:

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

- i) He shall take prompt action to warn the Loco pilot / guard of the passing train by showing red 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 endeavor to attract the attention of the Loco pilot / guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.
- vi) In case the train does not stop, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action, under exchange of private number.

6. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

The gateman shall protect the line as under:-

A. On Double line section:

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

B. Other action to be taken by Gateman:

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

7. 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.

8. Mode of operation:

Gate shall normally kept open to the road traffic, whenever it is required to close gateman on duty shall ensure clearance of road traffic, operate the electrical lifting barrier as per the following procedure.

- a) Buttons are provided on panel for closing and opening of LC gate respectively (marked as green 'G' for closing and locking & yellow "Y" for Opening respectively)
- b) The Push button 'G' pressed, till the gate is close and locked.
- c) After the gate is closed and locked, then switch 'GS1' and 'GS2' is reversed will clear UP & DN gate stop signal respectively.
- d) For opening of LC gate, after passage of train, switch 'GS1' and 'GS2' is put back to normal.
- e) In case of emergency, gateman will inform SM/LDX with PN number exchange, then KEY-A (chained with crank handle) is extracted from EKT (Electro mechanically free) provided at gate lodge (in a locked and sealed red box with glass cover) for manual operation of lifting barriers by crank handling.
- f) Extraction of KEY-'A' shall put back all the relevant signals to 'ON'.
- g) Dead approach locking of 60 seconds is provided on UP & DN gate Home signals.

Working of Emergency Key:

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

9. INTIMATION TO GATE KEEPER:

- 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, under exchange of private number, as soon as he receives train entering section advice from the dispatching station.
- iii) If the actual running time of the train from either end of the section is less than 10 minutes, 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.

10. Failure of Telephonic Communication:

When get Telephonic Communication fails or it does not 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 Pilot In/Out authority to the train Loco Pilot to pass the signal at 'ON' position.
- iv) In addition Station Master shall also issue a caution order advising the Loco Pilot to whistle continuously and approach the gate cautiously.
- v) The train Loco Pilot shall be instructed to pass the gate cautiously, on being hand signalled by the gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the gate and ensure that gate is closed following GR 3.73(2)(b).
- vi) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- vii) The Station Master at the dispatching end shall then issue a caution order to the drive before dispatching 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.
- 11. Working of Sliding Barriers in case of Failure/Defectiveness of Lifting Barriers:**
- i) Key 'S' when extracted from lock free EKT-3, makes road signal danger and activate road hooter key 'S' unlocking the sliding barrier-1.
 - ii) Sliding boom to be rolled across the road up to the lock post. Key (Chained with barrier) Releases the lock plunger and key SB-1. Key SB-1 when extracted lock the barrier-1.
 - iii) Similarly, after unlocking the pad lock sliding barrier-2 to be rolled across road up to the lock post, key (chained with barrier) along with key SB-1 inserted releases the lock plunger and key SB-2 when extracted locks the sliding barrier and key SB-1.
 - iv) Finally released key SB-2 is transmitted electrically through EKT-2 to clear UP/DN signals after operation of concerned signals switches for UP & DN directions respectively.
- 12. Failure of Gate Key with the gate in closed position, when Gate Key cannot be extracted for Opening the gate:**
- [i] If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gate man must immediately inform the SS/SM on duty on telephone, under exchange of private number.
 - [ii] If Emergency Key is available at the gate lodge, gateman will take it out from the sealed box by breaking the seal and open the gate for road traffic.- No Emergency Key provided.
 - [iii] The record of the date and time of breaking the sealed cover of emergency key box shall be recorded and signed with reasons.-Not applicable
 - [iv] Thereafter, the gate must be treated as non-interlocked and produced for reception / Dispatch of trains as prescribed for non-inter locked gates, should be adopted.
 - [v] SS/SM on duty shall issue caution order to the loco pilot before dispatching a train.
 - [vi] He shall also advise the Station Master at the dispatching end, exchange of private number, to similarly issue caution order to the loco pilot before dispatching a train in block section from his end.
 - [vii] SS/SM shall advice S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
 - [viii] Normal working will be resumed only after S&T staff repair the key transmitter and issue re-connection / 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.
- 13. Failure of the Gate Key with the gate in open condition:**
- a) If the gate key cannot be extracted from the winch, gate signal level or key transmitter then gateman must immediately inform the SS/SM on duty on telephone, under exchange of private number.
 - b) Thereafter, the gate must be treated as non-interlocked and procedure for reception /dispatch of train as prescribed for non-interlocked gates should be adopted.
 - c) The gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals.
 - d) SS/SM on duty shall issue a caution order to loco pilot of a departing train.

- e) He shall also advise the SS/SM at the dispatching end, under exchange of private number, to issue a caution order to the loco pilot before dispatching a train in the block section from his end.
- f) SS/SM shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- g) Normal working will be resumed only after S&T staff repair the key transmitter and issue re-connection / fit memo for the same.
- h) After rectification, the Emergency Key shall be replaced in the emergency key box and released by the S&T maintainer.

14. Defective Gate Signals:

- I. The gate man shall treat the gate signal as defective and must not take off them under following circumstances:
 - a. If gate signal can be taken 'OFF' without closing the gate, or
 - b. The key can be extracted from the operating winch when the gate is in open condition, or The key can be extracted from the gates when the gate is in open condition.
- II. If the gate or the gate signal or distant signal becomes defective in 'OFF' position, the gateman will make all efforts to put it at 'ON' position by turning signal levers to 'ON' position.
- III. The gate man will immediately advise the SS/SM on duty, under exchange of private number regarding defective gate signals.
- IV. Thereafter, the gate must be treated as non-interlocked and procedure for reception /dispatch as prescribed for non-interlocked gates should be adopted.
- V. He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- VI. SS/SM on duty will 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 dispatching a train in the block section from his end.
- VIII. SS/SM shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- IX. Normal working will be resumed only after S&T staff rectifies the defective gate signal and issue reconnection /fit memo for the same.

15. OBSTRUCTION AT THE GATE:

- a) 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.
- b) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defect / obstruction at the gate, under exchange of private number.
- c) Station Master on duty shall be advised to put the reception / departure signals back to 'ON' position, if taken 'OFF' for a train.
- d) If there is no response from the Station Master after three attempts, he shall first protect the gate and then inform on phone.

- e) 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(6).
- f) Thereafter he shall protect the gate from the other direction also.
- g) 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.
- h) 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.
- i) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- j) Station Master shall then issue a caution order to Loco pilot of the gateman, if the gate is broken, but is clear of any obstruction.
- k) 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.
- l) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- m) Normal working will be resumed only after maintenance staff rectifies the defective lifting barriers and issue fit memo for the same.

16. 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.15 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.

SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATIONS
ARRANGEMENT AT THE STATION LADDA (LDX)

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

1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:

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

1.1 DESCRIPTION OF PANEL :

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

1.2 POINT BUTTONS :

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

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

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

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

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

1.7 OPERATION OF POINTS :

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

route setting for train operation also, the same indications will glow.

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

2.1 DESCRIPTION OF POINTS :

Sl.	Point Button No.	Colour	Description
1.	21	Black	Cross over point between UP & DN. main lines at RGDA end.
2.	22	Black	Cross over point between UP & DN. main lines at VZM end.
3.	23	Black	Cross over point between UP. Main and UP. loop line at RGDA end.
4.	24	Black	Cross over point between DN Main line and Common loop at VZM end.
5.	25	Black	Cross over point between DN main and Common loop at RGDA end.
6.	26	Black	Cross over point between UP main and UP loop at VZM end.
7.	Point group button (Normal)	Black with red dot.	Common button for normal operation of points.
8.	Point Group Button (Reverse)	Black and Red dot.	Common button for Reverse operation of points.

3. SIGNAL BUTTONS :

Sl.	Button No.	Colour	Description
1.	C1	Red with White dot	UP calling-on signal for Line No 1,.3 & 4
2.	S1	Red	UP Home Signal for Line No.1, 3 & 4
3.	C2	Red with white dot	DN. Calling-on signal for Line No.1 & 2
4.	S2	Red	DN. Home signal for Line No.1 and 2
5.	SH3	Yellow	Shunt signal for Line No.1 & 2.
6.	SH4	Yellow	Shunt signal for Line No.1, 2 ,3 & 4.
7.	S7	Red	UP starter for Line No.4
8.	S8	Red	DN starter for Line No.1
9.	S9	Red	UP starter for Line No.1.

10.	S10	Red	DN. starter signal for Line No2
11.	S11	Red	UP starter signal for Line No.3 starter
12.	S12	Red	DN Advanced starter
13.	S13	Red	UP Advanced Starter

3.1 SIGNAL INDICATION :

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

4. ROUTE BUTTONS :

Route buttons are provided separately on each running line on the panel for indication of route (viz. UM, DM, , CL1, CL2, UL1, UL2). Common route buttons are also provided viz. 12AT and 13AT for Up and Dn starter signals respectively. For taking of Dn and Up advanced starter route buttons 12 UN and 13 UN are also provided

4.1 Descriptions of Route Buttons :

Sl.	Button No.	Colour	Description
1.	UM-UN	White	Common route button for Up Home signal and calling On signal for Line No.3 setting overlap on Up main.
2.	UL/2-UN	White	Common route button for Up Home signal for LineNo.4 setting overlap on main line.
3.	UL/2-UN	White with Black dot	Common route button for Up Home signal and Up Calling On signal for LineNo.4 setting overlap on over run line.
4.	DM-UN	White	Common route button for Dn. Home Signal and Calling On signal for Line No.2 setting overlap on Dn. main.
5.	CL/2-UN	White	Common route button for Up & Dn. Home Signal and Calling On signal for Line No.1 setting over lap on common loop.
6.	CL/1-UN	White with Black dot	Common route button for Up & Dn. Home signals and Calling On signals for Line No.1 setting over lap on Sand hump/ over run line.
7.	12 AT-UN	White	Common route button for Dn. Starter signals.
8.	13 AT-UN	White	Common route button for Up Starter signals
9.	Group (Trans)	White with Black dot	Common release button for crank handle and siding control.
10.	Group Release	White with Black dot	Common release button for crank handle and siding control.
11.	12- UN	White	Route button for Dn advanced starter.
12.	13- UN	White	Route button for Up advanced starter.

5. Power Failure Indication/Buzzer And Power Acknowledgement :

Power supply to the signalling installation is through integrated power supply system. The IPS is normally fed through UP & DN AT supply. The standby power supply is through OSEB local supply. The available AT/local / DG supply is fed to the IPS through auto change over switch provided in IPS. In the event of failure of AT supply, the SM on duty shall start the Local Supply/Diesel generator. The Local power supply/D.G. set is fed to the auto change over switch provided in IPS. Through auto change over switch the Local Supply/D.G. set power supply will be extended to the IPS.

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

REMOTE MONITORING

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

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

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

5.1 LED SIGNAL FAILURE INDICATION (RED SIGNAL LAMP MUTTING BUTTON RED WITH WHITE DOT):

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

5.2 BUTTON HELD INDICATION WHITE/BUTTON BUZZER WHITE WITH RED DOT:

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

6. TRACK CIRCUITS / AXLE COUNTERS:

At this station all the berthing lines and point zones are provided with track circuits to indicate the occupation/clearance of berth/point zone portion. Point Zone Track circuits will automatically replace starters. Last Vehicle Track (LVT) and first Vehicle Track (FVT) are provided near Home and advance starter signals for their automatic replacement release of block instruments. In addition 90 Mts rail length track circuits are provided in rear of UP and DN home signal for control of calling on signal indication panel is installed in station to indicate the occupation/clearance of track circuits.

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

6.2. CRANK HANDLE FOR EMERGENCY OPERATION OF POINTS CRANK:

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

CRANK HANDLE CONTROL FOR OPERATION OF POINTS

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

6.3. On account of the doubtful operation of any track circuit by light vehicle/ vehicle including self propelled vehicles such as motor trolley or a diesel shunting engine or a tower wagon, in indication of the occupancy of the track it is necessary that the station master on duty satisfied himself that the said vehicle/ vehicles has/have cleared the point zone track circuits by observing the track indication of the tracks on either side of the cross over by

positively checking of the ENTRANCE and EXIT track circuit are showing occupancy and clearance in accordance with the train movement.

7. STATION MASTER'S KEY:

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

8. EMERGENCY OPERATIONS:

The following are the instructions for Emergency operations.

8.1 CANCELLATION BUTTON OR COUNTER:

For the purpose of the emergency operations there is an emergency Route cancellation and also there is a counter for counting emergency operations involving the concurrent operation of the emergency route cancellation button. The station master on duty must press the emergency route button by breaking the seal along with concerned signal button for which emergency route releases is required. A yellow indication will appear below the signal indicating that the timer has started operation and after lapse of 120 seconds. The desired route will be released provided all other conditions are favourable for the route release. The counter registers to next higher number every time emergency route cancellation is initiated. SM on duty shall ensure sealing of emergency route cancellation button by S&T maintenance staff after completion of the work.

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

8.3 CANCELLATION OF UNINTENDED LOCKING OF POINTS:

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

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

OR

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

OR

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

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

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

9. EMERGENCY OPERATIONS:

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

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

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

10. EMERGENCY OPERATIONS OF POINT

a) IN CASE OF POINT ZONE TRACK CIRCUIT FAILURE:

The Station Master on duty can operate points from panel in case of point zone track circuits fails. The Station Master on duty after physical verification inserts the SM's emergency point key and turn. Keeping Emergency point key in that position the Station Master on duty must press the individual point button along with emergency point operation button (Black with Red dot) by breaking the seal. He shall then release the emergency point operation button only and press the point group Normal or Reverse button as per requirement keeping the individual point button is pressed condition. Points will be set to Normal or Reverse position as per operation. During the initiation on RED indication will appear above the emergency operation button. This operation will be registered in and emergency point operation counter placed above the emergency point operation button and counter registers to next higher number each time emergency point operation is initiated. SM on duty shall ensure sealing of emergency point operation button by S&T maintenance staff after completion of emergency point operation.

b) IN CASE OF AXLE COUNTER FAILURE:

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

11. INTERLOCKING OF SIGNALS:

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

12. LOCKING OF RELAY ROOM:

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

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

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

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

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

14.1 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

However, before declaring a Signal as defective the setting of point on the route to which it applies shall be inspected by the Station Master on duty irrespective of the position of the switches on he Panel in term of SR 3.68.04(c).

14.2 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

It is only after receipt of this information the sectional maintainer (Electrical or Mechanical) shall attend to the failure after giving a disconnection memo. After rectification of the fault the sectional maintainer shall give a reconnection memo detailing rectification and it is only after the Station Master of duty has personally checked this

defective gear and is satisfied that it is in good and proper working order, he shall resume the normal working of the said defective gear in terms of SR 3.64.04 (c) and (d).

15. PROCEDURE FOR CARRYING OUT PLANNED MAINTANANCE WORK:

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

16. EMERGENCIES:

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

17. LIGHTING OF SIGNAL LAMPS AND THEIR MAINTENANCE:

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

18. CORRECTING TIME IN STATION CLOCK:

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

19. NORMAL POWER SUPPLY AND STAND BY POWER SUPPLY:

The Station works on 230 Volts power supply from Local. The first standby power supply is from two numbers of D.G.sets.

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

Normal power supply to the Signalling and interlocking installations at this station is drawn from Local [at 230V-50Hz]. The standby power supply is taken from two numbers of Diesel generators. The Station Master must however, maintain the record of the power failure of the local supply and he must promptly report the failure to the Section controller and the concerned Electrical and S&T maintenance staff.

20. WORKING OF POINTS - POSITION OF POINTS:

The normal position of all points shown in the Station Working Rule Diagram No. SI/WRD 23073 and also in the mimic indication panel provided in the Station Masters office.

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

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

- 21.1 Whenever a Signal or a Point become defective, any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at Station.
- 21.2 In case of failure of Signal or a Point and in case the Point 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 The crank handle key can be extracted from concerned point crank handle RKT provided at location by pressing common trains button along with conceded crank handle button. After setting the point by crank handle the key will be inserted again into the concerned crank handle RKT and will be turned. Key indication will appear on panel and the SM has to press the common receive buttons along with concerned crank handle button for further normal operations.
- 21.4 The case of failure of Motor Operated Points should be promptly reported to the concerned Signal Inspector/ESM for immediate rectification.
 - 21.4.1 Whenever an emergency Crank handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty; will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the concerned Points will be treated as defective till the Emergency Crank Handle is returned back to the Station Master on duty.
- 22 21.4.2 Emergency release of crank handle after the lapse of 120 sec., in case of emergency release of crank handle during any of the route remains locked.

- 22.2 Both parting with the emergency crank handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of

Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.

- 22.2.1 The Emergency Crank Handle Register is to be maintained in the following Performa by the Station Master on duty wherein the particulars of usage of the Emergency Crank Handle must be recorded.

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

22. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

22.1 INTERLOCKING WITH HOME SIGNALS:

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

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

22.3 SUSPENSION OF LAST STOP SIGNALS:

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

23. BURNING OF SIGNAL LIGHTS:

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

24 TELECOMMUNICATIONS:

The details of the Telecommunication is as follows :-

- 1) Telephone attached to Lock and Block instruments of adjoining stations
- 2) Magneto telephones attached to adjacent stations
- 3) Magneto telephones provided at crank handle locations at either end locations
- 4) Telephones connected to L.C. Gates at Km 347/7-5, Km 347.115.
- 5) Section Control Phone
- 6) Auto Telephone
- 7) BSNL Phone
- 8) VHF set.

25. FAILURE OF COMMUNICATIONS - FAILURE OF BLOCK INSTRUMENTS:

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

26. RESETTING OF LVV DIGITAL AXLE COUNTER:

The entire block section between LDX -RGDA & LDX-JMPT on both UP & DN lines are provided with High Availability Single Section Digital Axle Counter.

For Section LDX -JMPT:

A Pair of High Availability Single section Digital axle counter is provided between LDX -JMPT and another one at just beyond DN Home signal no. of LDX and another on 2XT2 track section of LDX and another pair of High Availability Single Section Digital Axle Counter is provided between LDX-JMPT one at just beyond UP Advanced Starter signal No.13 of LDX and another on 1XT2Track section of JMPT for last vehicle verification.

For Section LDX-RGDA:

A Pair of High Availability Single section Digital axle counter is provided between LDX-RGDA one at just beyond UP advanced starter signal no.29 of RGDA and another on 1T2 track circuit of LDX and another pair of High Availability Single Section Digital Axle Counter is provided between LDX-RGDA one at just beyond DN Advanced Starter signal No.12 of LDX and another on 1T2Track section of RGDA for last vehicle verification.

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

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

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

Note:

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

High Availability Single Section Digital Axle Counter (HASSDAC) provided for LDX-RGDA & LDX-JMPT Sections for both UP & DN lines. These two LVCDs are named as SSDAC-1 and SSDAC-2. The status of both systems is provided as indications beside of the operating VDUs.

SL NO.	indication	Automatic action taken by Equipment.	Action by SM
1	Only SSDAC-1 fails after arrival of the train	System resets automatically.	NIL
2	Only SSDAC-2 fails after arrival of the train	System resets automatically.	NIL
3	Both SSDAC-1 & 2 Fails after arrival of the train (or)for any reason	No automatic action.	SM to reset by taking permission From adjacent station and reset the system as procedure laid down and make an entry in the axle counter register.
4	Both SSDAC-1 & 2 Fails even after reset by SMs of both the end	No automatic action.	Enter in Signal Failure Register issue failure memo to signal technician. Procedure to be adopted is same as laid down.
5	Either SSDAC-1 or SSDAC-2 fails continuously for long time	-----	Report to signal staff without entering in signal failure

27. POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS :

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

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

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

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

- a) A change over switch is provided in the SM's office with the three power supplies viz., UP AT , DN AT and local for the changing the switch to the required supply position. The availability of the supply is indicated by luminous indicator above the circuit breaker for each supply.
- b) Normally the switch will be kept towards UP AT/DN AT position. Whenever power block is to be given on the line the on duty SM/SS on duty must ascertain that power is available on the other AT and change over the switch to the desired position.

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

- c) In case of failure of one of the AT supply without any power block the on duty SM/SS has to check whether the circuit breaker has tripped [Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is down and when tripped it goes UP.]
In case of failure of both AT supplies without any power block the local supply shall be utilized by operating the change over switch. If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any means and a message shall be given to concerned SSE [Elect.] and SSE/PSI [OHE] for prompt rectification.
- d) Whenever there is failure of power supply in one AT the SM/SS on duty shall take prompt action to inform to all concerned for rectification.
The on duty SM/SS himself during each shift shall check & test the availability of power supply on both AT.s and make an entry in the station dairy duly initiating for rectification of failure if any.

28.0 WORKING OF AUTOMATIC FIRE DETECTION AND ALARM SYSTEM:

- In case of any alarm-Zone number on the LCD display can be seen.
- Note down the zone No. and panel display name, by referring display chart.
- Then open the key pad and press the "OFF" button and enter the code 1111 (1 digit four times).
- Automatically it will get reset.
- Once you find the zone number rush to that particular area where the detector gives alarm.
- The movement the detection detects any smoke particles, the RED LED will blink along with the alarm.
- Once you reach the area where the detector is giving the alarm, check whether the alarm is due to the fire or for any other reason.
- To alert the people in case of emergency press "*" sign of the n'e which is present inside the key pad together for few seconds. This will enable you to hear the panel alarm.
- To reset the panel press "OFF" button and enter the code 1111 (1 digit four times).
- If the power fails on this will enable us to see the red indicator on the panel.
- In case of failure in power and if the battery is fully charged, the panel can function effectively as long as the charge in the battery is present.

AUTO DIALLING:

If you hear alarm from the panel, this system will dial the Railway Auto telephones as assigned to the all concerned.

APPENDIX 'C'

ANTI COLLISION DEVICE [RAKSHA KAVACH]:

-NIL-

APPENDIX 'D'**DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT**

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

COMPLEMENT OF STAFF	STAFF IN EACH SHIFT
SS/SM	01
TRAFFIC POINT MAN	01

1. STATION SUPERINTENDENT/STATION MASTER (IN CHARGE):

- i) He is responsible for trains passing during his shift.
- ii) He is responsible for the general and satisfactory working of the station and for the efficient discharge of duties by staff working under him.
- iii) He shall keep all Rule books, Registers, Files and documents neat and up to date.
- iv) He shall ensure that all equipment, apparatus, and instruments including signaling and interlocking gears and fittings are kept clean and oiled by S&T officials.
- v) His special attention is drawn to Chapter-II of G&SR and GR 5.01 to 5.08 with relevant SRs and O.M. Chapter-2.
- vi) He shall follow the instructions laid down in SR.3.68.01 (c) and (d) and SR 14.07.01 and B.W.M.2.09 (e).
- vii) He shall promptly attend to accidents and report them.
- viii) He shall ensure that firefighting equipment at the station such as fire extinguisher, fire buckets etc. are in good fettle and ready for use.
- ix) He must ensure that the essential safety equipment at his station is the same complete and in good condition. If there is any deficiency it should be made good without delay.
- x) He shall see that TSR, SM's Diary, Inspection Note Book, Reference Books and other station record is properly maintained and preserved for a minimum period as prescribed in the Operating Manual.
- xi) He shall ensure that all correction slips of Manuals and SWR are posted and changes are made in respective pages.
- xii) He shall supervise the work of safe working staff and conduct night inspections and report lapses of staff working under him.

2. STATION MASTER:

- a) He is responsible for trains passing during his shift.
- b) He shall promptly bring to the notice of SM in-charge all irregularities and accidents in course of his shift duties.

- c) During the absence of SM, I/C, the duties of the Station Master will devolve on him.
- d) He shall follow SR 3.68.01(c) and (d) SR 14.07.1 and OM Chapter-2.
- e) His special attention is drawn to Chapter-2 of G&SR 1976 and GR 5.01 to 5.08 with relevant SRs.
- f) He shall not consider himself relieved of duty unless he has completed transactions of trains for which he has given/obtained line clear till the complete arrival of such trains.
- g) He shall always obey the lawful orders of his superiors so long as they do not contravene any of the extant rules in force.
- h) He shall keep the Station Master's control keys of Block Instruments/Control Panel in his personal custody whenever, he is required to leave his office even for a short duration.
- i) He shall be responsible for correct issuance of caution order, whenever required.
- j) As an assistant to SM, I/C, he shall carry out the instructions given from time to time.

3. TRAFFIC POINTSMAN:

- i) He shall work under the orders SM on duty.
- ii) He shall be in proper neat and clean uniform while on duty.
- iii) He shall always commence his duty equipped with hand signal lamps during night and flags during day.
- iv) He shall couple and uncouple vehicles under the supervision of SM.
- v) He shall watch and guard the packages and other Railway property lying in the Station premises.
- vi) He shall report any irregularities coming to his notice.
- vii) He shall do loading and unloading of parcels, smalls and Guard's boxes. He shall do piloting IN and OUT.
- viii) 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.
- ix) He shall not leave his duty unless properly relieved or authorized by his superiors.
- x) He shall follow OM Chapter-2.

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

APPENDIX 'E'**LIST OF ESSENTIAL EQUIPMENT PROVIDED AT THE STATION:**

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

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

APPENDIX 'F'

RULES FOR WORKING OF DK STATIONS, HALTS, IBH, IBS AND OUTLYING SIDINGS

--NIL--

APPENDIX- 'G'

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS:

DETAILS OF WORKING RULES OF 25KV AC TRACTION.