

EAST COAST RAILWAY
WALTAIR DIVISION

STATION WORKING RULES OF VIZIANAGARAM STATION
(BROAD GAUGE)

No.WTP/5/SWR/DVD

Date of Issue: _____

Date brought into force: _____

Ref: Railway Board's Letter No 2000/Safety (A&R) 19/36 Dated:22-10-2005**NOTE:-**

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

1.0 STATION WORKING RULE DIAGRAM

- i) Station working diagram No: SI/WRD/23068
- ii) CSTE/ECor.Rly/ DRG NO: 23068
- iii) Date upto which corrected

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

- i) Name of the Station : VIZIANAGARAM
- ii) Class of Station : 'B'
- iii) Section : HWH-CEN
- iv) Double/Single/Multiple line : Tripple line between VZM-KUK and double line between VZM-NML & VZM-GTLM.
- v) Electrified/non electrified : Electrified
- vi) Gauge BG/MG/NG : BG
- vii) Railway : East Coast Railway
- viii) Route : 'B'
- ix) Situated at KM : 818.300 KM from HWH
466.583 KM from Raipur
- x) From : HWH
- xi) No. of Cabins : Nil

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

i)	Adjacent Block station	Distance	Direction
	NERLIMARALA	11.200 KM.	HWH End
	KORUKONDA	10.540 KM.	VSKP end.
	GOTLAM	5.814 KM	Raipur end.
	Provision of IBS	IBS provided in section between VZM-NML	HWH End
		IBS provided in section between VZM-KUK	VSKP End
	Automatic Signals	Nil	
	D.K stations/Outlying	Nil	

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

S. No	Between stations	The point from which the Block sections commences.	The point at which Block Section ends.
1.	[Main Line] NML-VZM[UP Line]	A] From UP Advanced Starter signal No. 13 NML. B] From the IBH Signal No. 15 of NML.	To a point 407M beyond IBH Signal No 15 of NML. To the outermost Facing Point No. 112A of VZM.
2.	[Main Line] VZM-NML[DN.Line]	A]From DN. Advanced starter signal No.48 of VZM. B]From the IBH Signal No.50 of VZM.	To a point 416M beyond IBH Signal No.50 of VZM. To the outermost Facing Point No. 22A of NML
3.	[Main Line] VZM-KUK[UP Line]	A]From UP Advanced Starter Signal No.49 of VZM. B]From the IBH Signal No.51 of VZM.	To a point 402M beyond IBH Signal No.51 of VZM. To the UP outermost Facing Point No.21A of KUK.
4.	[Main Line] KUK-VZM[DN.Line]	A]From the DN. Advance Starter Signal No.17 of KUK. B]From the IBH Signal No. 16 of KUK.	To a point 400M beyond IBH Signal No. 16 of KUK. To the outermost facing point No 156B of VZM.
5.	[Main Line] KUK-VZM [Middle Line]	From UP Advanced starter signal No.47 of VZM. Middle line.	DN Advanced starter signal of KUK Middle Line.

6.	[R.V Line] VZM-GTLM [UP Line]	A) From the UP Advance Starter Signal No. 11 of GTLM.	To point No.101 A of VZM.
7.	[R.V Line] VZM- GTLM [DN.Line]	From the Dn. Advanced Starter Signal No.52 of VZM.	To Facing Point No. 18 of GTLM.

2.4 **GRADIENTS IF ANY:**

A) From CSB towards KUK (Center of the station building) (CSB)

Station towards	Chainage		Stretch in Mtrs	Gradient Level/Falling / Raising
	From	To		
KUK on Up, Down and Middle Line	000.00M	2300.00M	2300.00	Level
	2300.00M	4824.00M	2524.00	1 in 330 falling for Up trains and raising for Dn trains
	4824.00M	In to section	-	Level

B) From CSB towards NML

Into yard Up and Dn lines.	Chainage		Stretch in Mtrs	Gradient Level/Falling / Raising
	From	To		
	0.000M	182.88M	182.88M	Level
	182.88M	1139.962 M	957.102M	1 in 600 Raising for DN train and falling for UP train.
	1139.962M	1247.420M	107.458M	1 in 200 Raising for DN train and falling for UP train.
	1247.420M	1480.000M	232.580M	1 in 350 Raising for DN train and falling for UP train.
	1480.000M	1717.900M	237.900M	1 in 300 Raising for DN train and falling for UP train.
	1717.900M	2087.420M	369.520M	LEVEL for both (UP&DN) trains
	2087.420M	2987.420M	900.000M	1 in 200 Falling for DN trains and raising for UP trains.
	2987.420M	Into section	—	1 in 150 Falling for DN trains and raising for UP trains.

Into IBS Up and Dn lines.	Chainage		Stretch in Mtrs	Gradient Level/Falling / Raising
	From	To		
	From Section	812.620 KM	—	1 in 350 Falling for DN trains and raising for UP trains.
	812.620 KM	811.770 KM	850.000	1 in 400 Falling for DN trains and raising for UP trains.
	811.770 KM	811.450 KM	320.000	1 in 250 Falling for DN trains and raising for UP trains.
	811.450 KM	810.830 KM	620.000	1 in 300 Falling for DN trains and raising for UP trains.
	810.830 KM	810.170 KM	660.000	1 in 450 Falling for DN trains and raising for UP trains.
	810.170 KM	Into section	—	Level.

C) From CSB towards GTLM:

Into yard	Chainage		Stretch in Mtrs	Gradient Level/Falling / Raising
	From	To		
	0.000M	182.880M	182.880M	LEVEL
Towards GTLM on Sh Neck	182.880M	1042.710M	859.830M	1 in 600 Raising for DN Direction & 1 in 600 falling for UP direction
	1042.710M	1261.090M	218.38 M	1 in 400 Falling for DN direction & 1 in 400 raising for UP direction.
Towards GTLM on RV Up line	182.880M.	1060.800 M	877.92 M	1 in 600 falling.
	1060.800M	2689.520M	1628.72 M	1 in 150 falling
	2689.520M	2772.580M	83.060M	Level.
	2772.580M	In to section		1 in 150 Raising
Towards GTLM on RV Dn line	182.880M.	1042.770 M	859.890 M	1 in 600 Raising.
	1042.770M	3190.500M	. 417.920M	1 in 150 Raising
	3190.500M	3240.500M	50.000M	Level
	3240.500M	3690.000M	449.500 M	1 in 150 Falling
	3690.000M	Into section	Into Section	Level

2.5 LAY OUT:

A) RUNNING LINES IN THE MAIN YARD:

Srl	Name of the line	Whether Electrified/Non Electrified	Platform with length
1	LineNo:-1 (Common loop)	Electrified	High Level Passenger Platform 600M X 14.24M
2	Line No:-2 (Up loop cum Dn Despatch)	Electrified	High Level Passenger Platform 567M X 31.39M.
3	Line No>3 (UP Main)	Electrified	High Level Passenger Platform 567M X 31.39M
4	Line No:-4(DN Main)	Electrified	High Level Passenger Platform 612M X 11.58M
5	Line No:-5 (Common loop)	Electrified	High Level Passenger Platform 612M X 11.58M
6	Line No:-6 (Goods Reception & Despatch)	Electrified	—
7	Line No:-7 (Goods Reception & Despatch)	Electrified	—
8	Line No:-8 (Goods Reception & Despatch)	Electrified	—
9	Line No:-9 (Goods Reception & Despatch)	Electrified	—

B) SIDINGS:

Srl	Name of the Siding	Whether Electrified/Non Electrified	Platforms	Isolation of Running Line
	Shunting Neck 239mtrs.(SH to SS)	Electrified	-	Isolated by derailing switch.
	Oil Siding CAL 160 Mtrs	Electrified	-	Isolated by derailing switch.
	Adjustment Line CAL 42 Mtrs	Electrified	-	Isolated by derailing switch.
	Ballast Siding 1 CSL-452 Mtrs (SH to SS)	Electrified	-	Isolated by derailing switch on both sides.
	Ballast Siding 2 CSL – 456 Mtrs YSH to SS)	Electrified	-	Isolated by derailing switch.

C) DISCRETION OF SIDING:**NORTH END****i) SHUNTING NECK:**

The shunting neck takes off from Point No. 103 at GTLM end. This point is

operated from the panel by electrical Point Machine and shunt signal 13,42 and 46 govern the movement.

ii) **OIL SIDING:**

The oil siding takes off from Line No.9 through point control No; 129. An HPL is fitted on Point No: 129. Point No: 129 normally sets to running line. When 129 control key given from RRI Cabin . key 'P' will be received in location provided near to Point No. 129. Key 'P' will be inserted in to Point No. 129 and unlocks the Point for reverse operation. After reversing the Point key 'Q' will be released from the HPL which will in turn release D.S Point of oil siding. After completion of the work oil siding D.S. point will set to normal and key 'Q' will get released and which in turn release key 'P' after Point No.129 made normal. The key 'P' will once again restored in to RKT and transmits to RRI cabin for normal signal operation.

iii) **ADJUSTMENT LINE:**

The adjustment line takes off from Point No.129. When 129 control is given key 'Q' will be released after Point No.129 made reverse. Key 'R' releases from Point No.129. Reverses Point No.129 DS of adjustment line. After completion of work Point No.129 and its DS of adjustment line will be made normal. Key 'R' will get released from the Point which in turn allows Point No.129 to be made normal, Key 'Q' will get released from point No.129 as after making Point No.129 on line No.9, normal key 'P' will get released from HPL which in turn is transmitted to RRI through RKT for the signal movement.

SOUTH END:

i) **BALLAST SIDING 1:**

Ballast siding 1 takes off from Point No.148 and 149 to words VSKP end. This point is operated from the panel by electrical point machine and shunt signals 35, 37, 39,41 (E route) and SH 54 governs the movement, the other end of the siding is connected to Dead end. through hand point.

ii) **BALLAST SIDING 2:**

Ballast siding 2 takes off from Point No. 148 and 149 in Normal to words VSKP end. This point is operated from the panel by electrical point machine and shunt signals 37, 39, 41 (D Route) and SH 6 governs the movement, the other end of the siding is connected to Dead End through hand point.

2.5.1 RUNNING LINES, DIRECTION OF MOVEMENT AND HOLDING CAPACITY:

Srl	Name of the lines	Holding capacities on CSR	Direction of movement
1.	Line No:-1 (Common loop)	698 Mtrs (Str to BJ)	Trains coming from HWH & Raipur and going towards Chennai are UP trains.
2.	Line No:-2 (Up loop cum Dn Despatch)	651 Mtrs (Str to BJ)	

3.	Line No:-3 (UP Main)	695.53 Mtrs (Str to SS)	Trains coming from Chennai and going towards HWH & Raipur are DN trains.
4	Line No:-4 (DN Main)	820.18 Mtrs (Str to SS)	
5	Line No:-5 (Common loop)	Up CSL 669Mtrs (Str to BJ) DN CSL 768 Mtrs (Str to BJ of 31 T at VSKP End	
6	Line No:-6 (Goods Reception & Despatch)	724 Mtrs (Str to BJ)	
7	Line No:-7 (Goods Reception & Despatch)	678 Mtrs (Str to Str)	
8	Line No:-8 (Goods Reception & Despatch)	736 Mtrs (Str to Str)	
9	Line No:-9 (Goods Reception & Despatch)	718 Mtrs (Str to Str)	

2.5.3 ANY SPECIAL FEATURE IN THE LAYOUT:

A diamond crossover with 1 in 8 ½ single slip is provided at North end of the yard for diversion of traffic for main line and R.V. Line.

SPECIAL INSTRUCTIONS:

Up Home Signal No.1 & Up inner home signal No,7 are placed on right hand side of the track. To this effect a caution order shall issue for a period of one month and reiterated once every year.

2.6 LEVEL CROSSING:

- i) One "C" Class Non interlocked Engineering manned level crossing gate is situated at KM: 812/2-4 between VZM & NML.
- ii) One "B" Class Non interlocked Engineering manned level crossing gate is situated at KM: 815/27-29 between VZM & NML.
- iii) One "A" Class Engineering manned interlocked with UP & DN gate home signals level crossing gate is situated at KM: 816/31-33 between VZM & NML.
- iv) One "BI" Class Non interlocked Engineering manned level crossing gate is situated at KM: 821/9-11 between VZM & KUK.
- v) One "B2" Class Engineering manned interlocked with UP & DN gate home signals level crossing gate is situated at KM: 822/13-15 between VZM & KUK.

3.0 SYSTEM AND MEANS OF WORKING.**a) DOUBLE LINE:**

Trains are worked between VZM-NML, VZM-KUK and VZM-GTLM under Absolute Block System in accordance with GR. 7.01 (1) (a), 8.01(2)(b), 8.03(1) (a) (b) (c) (ii), 14.01 to 14.11,14.13and BWM Chapter-V.

The section between VZM-NML & VZM-KUK is split into Two LB sections on both UP and DN lines and trains are worked in terms of G & SR 3.75.

SGE Type 3 position double line lock and block instruments are provided in the RRI cabin for section VZM-KUK, VZM-NML and VZM-GTLM. For Double line section The instruments are of cooperative type. The SM on duty is responsible to operate the instrument and maintain the TSR and other relevant records. Block instruments shall be locked by two locks out of which one key shall be kept in the personal custody of SM on duty vide GR 14.12(i)(a) & 5.08 and other shall be kept with ESM.

b) SINGLE LINE

Trains are worked between VZM-KUK on middle line under absolute block system in accordance with GR 7.01(1) (a), 8.01(1) (a)&(c), 8.01(2) (b), 8.03(2)(a),(b),(c)&(ii), 14.01 to 14.07,14.08(b)(ii)to(iv) 14.09 to 14.11,14.12, 14.13 and BWM Chapter-IV part II either direction.

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Single Line Token Less Block instruments are installed in the SM's Office for Section VZM-KUK. The instruments are of co-operative type. The Station Master on duty is the only authorised person to operate the block instrument and their keys shall be kept under his personal custody vide GR 14.12(i)(a) & 5.08.

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING:**4.1 This Station is provided with Standard-I(R) interlocking with Multiple Aspect Colour Light Signalling having maximum equipment of signals. The aspects and indications of the MACLS is governed by GR.3.08 (4)(b).**

The Station is provided with central Route Relay Interlocking (RRI). All signals and points are electrically operated from the Operating Panel provided at SM's Office. An Indication Panel is also provided which depicts all the points signals and track circuits. Calling-on signals are provided below Home signals and starter signals(i.e. in both Up & Down directions) as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b). Central operating panel is provided in the Station Master's office to electrically control all signals, points, Gate key, etc., The Operating Panel is provided with SM's key which shall always remain in the personal custody of the Station Master on duty in terms of SR 3.36.03(a).

a) **CRANK HANDLE:**

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

Sl.No.	Crank Handle	Controls Point Nos.
1	CH-1	101, 104, 106. 109.
2	CH-2	102,103,105.
3	CH-3	107.
4	CH-4	108,113,114.
5	CH-5	116, 117.
6	CH-6	SPARE
7	CH-7	122, 123, 124, 125,126,127.
8	CH-8	SPARE
9	CH-9	112,115.
10	CH-10	147, 148. 149.150.
11	CH-11	152,.154.
12	CH-12	153, 156.
13	CH-13	139, 140, 141.
14	CH-14	134, 135.
15	CH-15	145.
16	CH-16	132,133.
17	CH-17	137, 138.

These crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank Handle's Locations. Crank handle keys can be taken out only when all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle can be released by SM by pressing concerned crank handle button and crank handle Trans/Receive button simultaneously. After transmission the KEY IN indication will start flashing, now the key can be extracted from the EKT. After extracting the key from the EKT, the KEY IN indication will disappear. When the keys are taken out no signal can be taken "OFF" over the particular route on the points nominated by that Crank Handle. This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points.

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

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

b) **TAKING OFF CALLING-ON SIGNAL:**

Starter signals in terms of GR 3.13[6],[B]. A Calling on signal shows no light in the 'ON' position and white light when taken "OFF". A calling - on signal, will be taken off for reception of trains or dispatch of train's when the Home signal or Starter Signal above it can not be taken off due to failure or any other reason or for admission of train on to a blocked line. Before taking 'OFF' calling-on signal during failure of track circuit the route and clearance of the track over which the train will be admitted must be checked physically by SS/SM on duty.

To take 'OFF' calling-on signal the train must come to a stop at the foot of the Home signal, occupying the track circuit in rear in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the indication Panel. The particular route on which train is intended to be received shall be set by operating the point push button and group button individually or by signal and route buttons pressing or by crank handling in the event of failure of operation of points through panel. After the route is set, the calling on signal button (Red with white dot) shall be pressed (as the case may be) simultaneously along with the concerned route button for 2 to 3 seconds and then released. After a lapse of 120 seconds, the calling-on signal clears i.e. a miniature yellow light glows at the concerned calling-on signal on the indication panel. Every such operation shall be recorded by the SS/SM on duty along with the reasons to do so. The calling on signal route can be released after complete arrival of the train or by emergency cancellation.

c) **SHUNT SIGNALS:**

Towards NML end Independent Shunt signals SH 3(A-B and towards GTLM end

Independent Shunt signals SH 1 I(A-F), 13 (A-B) SH 15 (A-C), SH42 (A-B) SH46 (A-B) are provided. .Dependant Shunt signals SH5 (A-B), SH7 (A-C), SH22 (A-B), SH24 (A-B), SH26 (A-B), SH30, SH34, SH36, SH38, SH40 (A-B), SH44 (A-B) are also provided towards North end of the yard.

Towards KUK end Independent Shunt signals SH 6, SH8 (A-H). SH10, SHI 8 (A-H), SH18 (A-H) and SH54 are provided. .Dependant Shunt signals SH12(A-D), SH23(A-B), SH25(A-B), SH27(A-B), SH31(A-B), SH35(A-E), SH37(A-E), SH39(A-E), and SH41(A-E) are also provided towards South end of the yard.

d) **EMERGENCY CROSS OVER:**

--NIL--

e) **L.C. GATE OPERATION**

Refer Appendix 'A' for L.C.Gate operations.

f) **EMERGENCY POINT OPERATION (BLACK WITH RED DOT).**

Emergency point operation facility is provided to operate the point from the operating Panel in case of failure of point controlling track circuit/Axle Counter.

In the event of failure of the track circuits /Axle counter controlling the points, the Panel Station Master should first personally or through field Station Master ensure that the track circuit concerned is not occupied by a train /vehicle and then for emergency operation of points the Station Master Operating panel should unlock the EWN lock on the operating panel by operating EWN key [provided for the purpose], press the point button [WN] along with the emergency point button [EWN] and release the buttons. A normal or reverse flashing indication will appear and the indication will be steady after the point is set to Normal or reverse, whichever is desired.

Each time point is thus operated, the same will be recorded on the EWN counter. All such operations will be registered in the emergency point operation counter Register. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

g) **EMERGENCY ROUTE RELEASE COUNTER:**

This counter is provided to register the number of operations made for emergency cancellation of route. The Station Master must record the last number registered on the counter while taking over/handing over duty.

RELEASING OF A SUB-ROUTE SECTION:

If any route section over a point zone is not released after passage of a train due to failure of track circuit or otherwise, the route section can be released by means of Emergency operation by Station Master on duty in presence of SE (Sig).

h) **EMERGENCY ROUTE RELEASE INDICATION:**

The Route Relay 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. Once a signal is taken off it should not be put back to DOND position unless absolutely required. When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a),

For this , the signal button concerned and the emergency signal group button EGGN should be pressed simultaneously. This operation will make the signal to assume danger aspect while the route is still held and the three button emergency route cancellation processes must be gone through for canceling the route already set. Refer to the following Para.

CANCELLATION OF A ROUTE:

If, after setting of the whole route and taking off the signal concerned, the route is to be altered the signal concerned must first be put back to DOND. If there is a train on the approach track or the signal is provided with dead approach locking the subject route gets released only after count-down of 120 seconds after the signal is put back to DOND. Then route can be cancelled by three buttons cancellation. The countdown of 120 seconds time interval is indicated by flashing white light on the approach lock indicator provided at the foot of the corresponding signal symbol on the indication panel. After the interval 120 seconds a steady white light appears and the flashing light ceases.

The panel Station Master should press the signal button and the emergency button EUUYN, keeping the signal button still pressed on, he should press the relevant route button. This operation will release the whole route and this will be indicated by extinguishing of the concern route lights on the panel. However, if the approach track of the signal is not free the cancellation cannot be done immediately. In both cases this cancellation operation is counted electrically on the veeder counter. Each operation of emergency cancellation of route should be recorded in the emergency route release counter register by registering the next higher number. All such operations and the new number should be recorded in the station diary Veeder counter register and in the train signal register specially kept for the purpose.

(i) TRACK CIRCUITS:

All berthing portion of line No. 1 to Line No.9 are track circuited. In addition there are short length track circuits in advance of Advanced Starter Signals and Home signals in both the directions are also provided. For Calling-on signals (Five Rail length) track circuits are also provided in rear of the Home signals in both directions. From last trailing point/fouling mark in either side of Yard to Advanced Starter Signals are also track circuited.. Indications for the above track circuits are available on indication Panel at SM's office. White indication on the indication panel indicates track clear and Red light indicates track occupied condition.

(j) **AXLE COUNTER:**

- i) Axle counters are provided in lieu of track circuit as, 1AXT, 2AXT, 3AXT, 4AXT & 5AXT. Axle counters are provided to prove occupation/clearance of Girder Bridge portion in the North end of the yard. Resetting arrangement is provided in the SM's panel when ever the Axle counter zone shows occupation even after any movement is completed or due to failure of Axle counter equipment. In such cases, the Axle counter is to be reset the process of which detailed in Appendix 'B' is to be followed.
- ii) Entire Block Section between VZM-KUK, VZM-NML and VZM-GTLM are provided with Digital axle counters.

For section KUK-VZM ON UP LINE

A pair of Digital axle counter is provided between VZM-KUK (UP IB Axle Counter 49 AXT) one just beyond UP Advanced starter signal No. 49 of VZM on 49T and another one on 51T2 track circuit beyond UP IB Home Signal No.51 of VZM station. Similarly a pair of Digital axle counter is provided between UP IB Home signal No 51 of VZM (UP LVV VZM-KUK) and another one beyond UP Home signal track circuit of KUK.

For section KUK-VZM ON DN LINE

A pair of Digital axle counter is provided between KUK-VZM (DN IB Axle Counter 40 AXT) one just beyond DN Advanced starter signal No. 40 of KUK on 40T and another one on 42T2 track circuit beyond DN IB Home Signal No.42 of KUK station. Similarly a pair of Digital axle counter is provided between DN IB Home signal No 42 of KUK (DN LW KUK-VZM) and another one beyond DN Home signal No.20A/B/C/D of VZM on 20T2 track circuit..

For section VZM-KUK ON MIDDLE LINE

A pair of Digital axle counter is provided between VZM-KUK (UP LVV Axle Counter) one just beyond UP Advanced starter signal No. 47 of VZM on 47T and another one on UP Home signal track circuit of middle line of KUK..

For section KUK - VZM ON MTODLE LINE

A pair of Digital axle counter is provided between KUK-VZM (DN LVV Axle Counter) one just beyond DN Advanced starter of KUK on 2T and another one on DN Home signal No. 16(A-F)on 16 T of middle line of VZM.

For section VZM-NML ON DN LINE

A pair of Digital axle counter is provided between VZM-NML (DN IB Axle Counter 48 AXT) one just beyond DN Advanced starter signal No. 48 of VZM on 48T and another one on 50T2 track circuit beyond DN IB Home Signal No.48 of VZM station. Similarly a pair of Digital axle counter is provided between DN IB Home signal No 50 of VZM (DN LVV VZM-NML) and another one beyond DN Home signal No.2 of NML on 2T2 track circuit..

For section NML-VZM ON UP LINE

A pair of Digital axle counter is provided between NML-VZM (UP IB Axle Counter 13 AXT) one just beyond UP Advanced starter signal No. 13 of NML on 13T and another one on 15T2 track circuit beyond UP IB Home Signal No. 15 of NML station. Similarly a pair of Digital axle counter is provided between UP IB Home signal No 15 of NML (UP LVV NML-VZM) and another one beyond UP Home signal No.1 (A-E) of VZM on 1T2 track circuit..

For section GTLM-VZM ON UP LINE

A pair of Digital axle counter is provided between GTLM-VZM (UP LVV Axle Counter) one just beyond UP Advanced starter signal of GTLM and another one beyond UP Home Signal No.9(A-F) on 9T2 of VZM station.

For section VZM-GTLM ON DN LINE

A pair of Digital axle counter is provided between VZM-GTLM (UP LVV Axle Counter) one just beyond DN Advanced starter signal No.52 of VZM on 52T and another one beyond DN Home Signal No.2 of GTLM on 2T2 track circuit.

The position of the Block/IB section whether cleared or occupied are reflected in the indication panel 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 shall not come to OFF and the concerned instrument shall remain locked in last operated position.

A resetting arrangement for resumption of the system in case of failure of axle counter has been provided in the SM office of the adjacent Block stations after

being assured by both the SM that the last vehicle has arrived complete at the receiving station by exchanging Private Number then resetting to be complied with. (Details of resetting procedure given in this SWR).

NOTE:

Before taking off reception and dispatch signals for Up and 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. The indication of track circuit/Axle counter will exhibit Red Light when track is occupied and White light when track is clear. There will be no track indication when any route is not set.

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

As per JPO/02/2012, the following procedure shall be adopted for opening of Relay Room:-

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

Names of the S&T staff authorized for opening of Relay room is to be entered in the first page of Relay room Key register and jointly certified by SSE/Signal in charge and DTI in-charge of the section. In emergency, if any S&T staff other than authorized wants to open Relay room, he must inform DSTE through Signal Fault Control. Signal Fault Control shall convey the permission of DSTE to SS/SM by giving Signal Fault Control order number.

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

When the Key of Operating Lock is returned by S&T staff to SM on duty, he shall verify the Relay Room for proper locking and then keep the key in safe custody and

acknowledge it on the Relay Room key register. If the relay room key is handed over to the Signal staff regarding the interference in safety gears the train shall be piloted in and out.

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

Entry to be made in S&T failure register by SM on duty and failure Memo has to be issued to S&T staff. S&T staff shall not take the Relay room key for attending failures and open the Relay room unless the failure is recorded in Signal failure register. If disconnection is required, Disconnection Memo has to be given by S&T staff to SM on duty. Failure memo should be acknowledged and entry in relay room key register to be made by S&T staff before obtaining Station Master's key. Relay Room key for schedule maintenance shall be taken once in a calendar Month during monthly inspection by Sectional Supervisor. Relay room can be opened by following above procedure for special maintenance activities like cable insulation testing, Block/disconnection memos, selection table testing, maintenance work inside relay room by Electrical and Engineering staff, during failures, E.I resetting and inspection by Divisional and Headquarter officials, works required by Construction & Open line staff for preparatory works and during commissioning. In each such case, the construction staff shall follow the detailed guidelines issued regarding working on signalling gears under the charge of open line. ,

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

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

4.3 POWER SUPPLY:

- i) A changeover switch is provided in the Station Master's Office with the three power supplies viz., AT, Local and generator, for changing the switch to the required supply position. A luminous indicator above the circuit breaker for each supply indicates the availability of the supply.
- (ii) Normally the switch will be kept towards AT position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the local supply.
- (iii) In case of failure of one of the AT supply without any power block, the on duty SM. has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is down and when tripped it goes up.) In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch. If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any other mean and a message shall be given to the AEE and CTFO/PSI for prompt rectification.
- (iv) For IPS system that provides to E.I auto-change over has been provided. There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

REMOTE MONITORING ASM BOX:

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

5.0 TELECOMMUNICATIONS:

- a) The Station is connected to VSKP-VZM Control Circuit.
- b) The station is connected to VZM-SPRD section control circuit.
- c) The station is connected to VSKP-PSA Dy. Control circuit.
- d) The station is connected to VSKP-SPRD Dy. Control.
- e) The Station is connected to VSKP-PSA traction power control circuit
- f) The station is connected to VSKP-PSA traction loco control circuit.
- g) Point to Point Hot line communication is provided for sections VZM-NML, VZM-KUK and VZM-GTLM
- h) Telephone attached to SGE Type lock and block instrument connected to the adjacent stations on either side.
- i) Telephone attached to Single line token less block Instruments connected to adjacent block station.
- j) Magneto telephone communication is provided between RRI Cabin and L.C. Gates.
 - i.) 'C' Class L.C.Gate at KM 812/2-4 between VZM-NML
 - ii) 'B2' Class L.C.Gate at KM 815/27-29 between VZM-NML
 - iii) 'A' Class L.C.Gate at KM 816/31-33 between VZM-NML.
 - iv) 'B1' Class L.C.Gate at KM 821/9-11 between VZM-KUK.
 - v) 'B2' Class L.C.Gate at KM 822/13-15 between VZM-KUK
- k) Telephone communication is provided between VZM-RRI cabin and IB Home signal post.No.51 between VZM-KUK on UP line and similarly IB Home signal post No.50 on DN line between VZM-NML.
- l) Telephone communication is provided between Station Master and Up CH locations and DN CH Locations..
- m) Two Numbers of Auto Telephones are provided which are connected to VZM and VSKP exchanges respectively.
- n) The Telephone communication is provided between Station center SS and RRI Cabin.
- o) VHF set is provided at VZM-RRI for communication with adjacent stations, Guards/Drivers of running trains.
- p) The station Manager at Central position provided with BSNL Telephone.
- q) The Station Manager at Central position provided with one Railway Auto Telephone.

**6.0 SYSTEM OF TRAIN WORKING –
MOVEMENT OF TRAINS:**

Movement of trains is regulated by the Section Controller on duty whose orders must be carried out provided they do not contravene any G&SR, BWM, OM, SWR or any other safe working principles. In the event of suspension of control working, the Station Master on duty shall work independently in consultation with the Station Master of the adjacent block station and shall be responsible for reception and dispatch of train. He shall ensure that preference is given to important trains and at the same time no undue detention occurs to other train vide OM 2.14, 2.17 & 2.24(a)

6.1 DUTIES OF TRAIN WORKING STAFF

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

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

Complement of Staff		Deployment in each shift	
S.M.R(Station Manager)	1	Station Manager general duties	1
Station Superintendent	6	Station Superintendent	1
Dy.S.S	2	Dy.S.S	1
TPM	13	TPMs	4

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 Supdt's office and in Gate lodge for traffic gate man (details duties are given in APPENDIX-'D').

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

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

6.1.3 ASSURANCE OF STAFF IN THE ASSURANCE REGISTER.

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

6.2.0 CONDITIONS FOR GRANTING LINE CLEAR:

The trains are worked under Absolute Block system with Double line working between VZM-KUK, VZM-NML, AND VZM-GTLM on UP and DN lines and single line working on middle line between VZM-KUK.

6.2.1 ANY SPECIAL CONDITIONS TO BE OBSERVED WHILE RECEIVING OR DESPATCHING A TRAIN.**6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE**

When a running line is blocked by stabled load wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train, the points in rear shall 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)].
If all the lines at a station happen to be blocked, when line clear has been granted to a train, the point should be set for the line occupied by a stabled load or a Goods train. [Refer GR 3.36.03(b) 5.04.01 & SR. 3.51.06(b)].
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 TRAINS ON BLOCKED LINE.

Whenever trains are to be admitted on an obstructed line it is necessary that the train are piloted IN on a written authority T/369(3b) given by the SM on duty and delivered by a competent Railway servant to the Loco pilot of the train. [Refer GR 5.09 & SRs there to]. Calling on signal where provided may be taken OFF.

6.2.1.3 RECEPTION OF TRAINS ON NON-SIGNALLED LINE:

Nil

6.2.1.4 DESPATCH OF TRAINS FROM NON-SIGNALLED LINE.

Nil

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

Nil

6.2.1.6 ANY SPECIAL CONDITIONS TO BE OBSERVED.

Nil

6.3 CONDITIONS FOR TAKING “OFF” APPROACH SIGNAL.

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

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

Station Master should ensure that the signal is put back to 'ON' after passage of train as per GR 3.36 and SRs there to.

6.4 SIMULTANEOUS RECEPTION AND DESPATCH OF TRAINS:

A. According to the existing inter locking at this station the simultaneous reception and dispatch of trains are permitted as stipulated below.

Reception of an UP train on Line No.1 or 2 setting Sand Hump from NML.	AND	a] Reception of another UP train from GTLM on line Nos. 5 or 6 or 7 or 8 or 9. OR
		b] Reception of a DN train from KUK on line Nos. 4 or 5 or 6 or 7 or 8 or 9
		c] Dispatch of another UP train from line Nos. 3 or 5 or 6 or 7 or 8 or 9 to UP line or Middle line.
		d] Dispatch of a DN train from line Nos 4 or 5 or 6 or 7 or 8 or 9 to NML or GTLM.
Reception of an UP train on Line No.3 from NML		a] Reception of another UP train from GTLM on lines Nos. 5 or 6 or 7 or 8 or 9 OR
	AND	b] Reception of a DN train from KUK on line Nos. 4 or 5 or 6 or 7 or 8 or 9 to NML or GTLM
		c] Dispatch of DN train from Line No: 4 or 5 or 6 or 7 or 8 or 9
		d] Dispatch of another UP train from line Nos. 7 or 8 or 9 to UP line or Middle line.
Reception of an UP train on line Nos.5 from NML		a] Reception of DN train from KUK on line No. 6 or 7 or 8 or 9 from DN line or Middle line.
	AND	b] Dispatch of another DN train from line No 9 to GTLM.
		c] Dispatch of another UP train from line Nos. 1 or 2 or 3 to UP line or Middle line.
Reception of an UP train on Line No.6 or 7 from NML		a] Dispatch of another UP train from line Nos. 1 or 2 or 3 or 5 to UP line or Middle line.
	AND	b] Dispatch of another DN train to GTLM from Line No.9
Reception of an UP train on Line No.8 or 9 from NML		a] Dispatch of UP trains from line Nos. 1 or 2 or 3 or 5 or 6 or 7 to UP line or Middle line.
Reception of an UP train on Line No.1 or 2 from GTLM		a] Reception of a DN train from KUK on Line No. 5 or 6 or 7 or 8 or 9
	AND	b] Dispatch of an UP train from line No.3
		c] Dispatch of a DN train to GTLM from Line No: 5 or 6 or 7 or 8 or 9
Reception of an UP train on Line No.3 from GTLM		a] Reception of a DN train from KUK on Line Nos. 5 or 6 or 7 or 8 or 9

	AND	b] Despatch of an another DN train from line No. 5 or 6 or 7 or 8 or 9 to GTLM
Reception of an UP train from GTLM on Line No.5		a] Reception of an DN trains on line No. 1 or 4 set to signal no.48.
	AND	b] Despatch of DN train from line Nos. 1 or 2 or 4 to NML
		c] Despatch of UP trains on line No. 1 or 2 or 3 or 6 or 7 or 8 or 9.
		d] Despatch of DN trains on line No.9 to GTLM
Reception of UP train on line Nos. 6 or 7 from GTLM	AND	a] Reception of another DN train from lines Nos. 1,or 4 from KUK set to signal no.48.
		b] Reception of another UP trains from NML on to line Nos.1 or 2 or 3.
Reception an UP train on line No.8 from GTLM	AND	a] Reception of an another DN train on to Line Nos. 4 set to Signal No.48 or
		b) Reception of DN trains on line no.1.
		c] Reception of another UP train from NML on to line Nos.1 or 2 or 3.
Reception of an UP train on Line No.9 from GTLM	AND	a] Reception of another UP train from NML line Nos. 1 or 2 or 3 or 5. OR
		b]Despatch of an DN train from line Nos. 1 or 2 or 4 or 5 or 6 or 7 or 8 to NML.
		c] Despatch of UP trains on Line No. 1 or 3 or 5
		d) Reception of DN trains from KUK on Line no. 1 or 5 OR
		e) Reception of Down train from KUK on line no.4 set to starter signal no.48.
Reception of an DN train from KUK on to line No.1 set to sand hump.		a] Reception of an another UP trains on Line No. 5 or 6 or 7 or 8 or 9.
	AND	b] Despatch of an DN train from line Nos. 4 or 5 or 6 or 7 or 8 or 9
Reception of an DN train from KUK on to line No.4 set to signal no. 48.		a] Reception of an another UP trains on Line No. 1 or 2 or 3 from NML
	AND	b]Reception of an another UP train on line Nos. 5 or 6 or 7 or 8 or 9 from GTLM
		c] Despatch of an another UP train from Line Nos. 1 or 2 or 3

		d] Despatch of an another DN train from Line Nos. 5 or 6 or 7 or 8 or 9 to GTLM
Reception of an DN train from KUK on to line No.4 set to Signal No.52		a] Reception of an another UP trains on Line No. 1 or 2 or 3 from NML. b] Despatch of an another DN train from Line Nos. 1 or 2 to NML
Reception of an DN train from KUK on to line No.5		a] Reception of an another UP trains on Line No. 1 or 2 or 3
	AND	b] Despatch of an another UP train from line Nos. 1 or 2 or 3
		c] Despatch of an another DN train from Line Nos. 4 to NML.
		d] Despatch of an another DN train from Line Nos. 1 or 2 or 4 to NML
Reception of an DN train from KUK on to lineNo.6 or 7		a] Reception of an another UP trains on Line No. 1 or 2 or 3
	AND	b]Despatch of an another UP train from line Nos. 1 or 2 or 3
		c] Despatch of an another DN train from Line Nos. 1 or 4 to NML
		d] Reception of an another UP train from Line No 9 from GTLM.
		e] Despatch of an another DN train from Line Nos. 9 to GTLM
Reception of an DN train from KUK on to lineNo.8		a] Reception of an another UP train from NML to Line No 1 or 2 or 3. OR
	AND	b] Reception of an another UP train from GTLM to Line No 1 or 2 or 3.
		c] Dispatch of an another UP train from Line Nos. 1 or 2 or 3
Reception of an DN train from KUK on to line No.9		a] Reception of another UP train on to Line No 1 or 2 or 3 or 5. OR
	AND	b] Despatch of an another UP train from Line No 1 or 2 or 3 or 5.
		c] Despatch of another DN train from Line no. 4

ADEQUATE DISTANCE:

To take off Home signals for admission of a train the adequate distance [signal over Lap] as mentioned below shall be kept clear in terms of GR 3.40[1][a] and SRs thereto.

CLEARENCE OF ADEQUATE DISTANCE				
Line	For UP trains		For DN trains	
	From	To	From	To
i] Common loop [line No.1]	UP Starter No. 23	Sand hump of Line No.2 or up to the Adv. Starter No.47 OR 49.	Dn. Starter No.22	Up to Sand hump
ii] UP loop cum Dn dispatch [Line No.2]	UP Starter No. 25	Sand hump OR up to Adv. Str. No.47 or 49.	-	-
iii] UP Main line [Line No.3]	UP Starter No. 27	Up to Adv Str. No.47 or 49.	-	-
iv] DN Main line [Line No.4]			DN Starter No.26	Up to Adv. Starter No.48 or 52.
v] Common Loop [Line No.5]	UP Starter No. 31	Up to point No. 134 A (end of 3 IT) OR Advanecd Str. signal No.47 or 49.	DN Starter No.30	Signal No.44
vi] Goods line [Line No. 6]	UP Starter No. 35	Up to point No. 150	DN Starter No.34	Up to Int. Str. Signal No.44
vii] Goods line [Line No. 7]	UP Starter No. 37	Up to point No. 150	DN Starter No.36	Up to Int. Str. Signal No.44
viii] Goods Line [Line No.8]	UP Starter No. 39	-Up to point No. 150	DN Starter No.38	Up to Int. Str. Signal No.44
ix] Goods Line [Line No.9]	UP Starter No. 41	Up to point No. 150	DN Starter No.40	Up to end of end of 125 BT (HWH end) OR up to Int. str signal No.44

6.5 COMPLETE ARRIVAL OF THE TRAINS:

The entire block section between VZM-NML, VZM-GTLM and VZM-KUK is monitored by axle counter system and the position of the block section whether 'Occupied' or 'Clear' is indicated on indication panel at SM's office. As soon as train enters in to that block section the RED indication appears on indication panel. After whole train clears the block section GREEN indication appears on the indication panel. This confirms the complete arrival of train and the SM on duty shall give 'Train Out' of Block Section' report on seeing the section clear indication GREEN on the indication panel.

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

In case a train passes incomplete, action shall be taken as per SR.4.17.02, the "Train out of Block Section" report shall be withheld to the station in rear until Complete Arrival Certificate is received from the station in advance supported by a private number. Train passing on adjacent line shall be stopped and Guard and Loco pilot shall be issued with caution Order to proceed cautiously and stop short of any obstruction as per SR. 4.17.03. On occasions when motor trolley follows a train the points shall not be operated until the following motor trolley is admitted on the same line. In the event of motor trolley is delayed in the section the SM on duty shall take action in terms of SR. 15.25.03 (b)(vi).

6.6.0 DESPATCH OF TRAINS:

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

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

6.7 TRAINS RUNNING THROUGH:

- a) The provision of GR 3.4, 4.17, 4.42 with relevant SRs and SR 3.42.02 (a)(iv) and other relevant provision of BWM shall be observed.
- b) The sequence for taking 'off' signals for run through trains is governed by SR 3.42.02(a).
- c) In every case in which trains are permitted to run through on a non isolated line, all shunting shall be stopped and no vehicle unattached to an engine or not properly secured in accordance with rule 5.23 may be kept standing on a connected line which is not isolated from through line vide SR 4.11 (2).

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

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

B. AXLE COUNTER:

In case, of failure of axle counter in the station yard, the clearance of the concerned line should be ensured physically before a train is piloted.

If the axle counter fails between the block sections, resetting procedure will be adopted as per Para 13.8 A of SWR (APP-B). If the axle counter indication does not appear 'Green' & continues to show 'RED' condition after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SE (signal) for rectification.

C. BLOCK INSTRUMENTS

In the event of partial/total failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer SR 6.02.03 & 6.02.06) During this period of time the authority will be T/369(3b) with identification number and Private Number issued from the station in advance written both in figure and words.

D. RECEPTION OF TRAIN ON OBSTRUCTED LINE:

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

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

-NIL-

F. DEFECTIVE SIGNALS:

When signals become defective, the procedure laid down in GR & SR shall be followed. A signal in the OFF position is the final indication that the points are correctly set for the route for which it applies and if it is found impossible to take OFF a signal, the setting of points on the route to which it applies shall be inspected by the Station Master on duty before the signal is declared as defective irrespective of what is indicated by the position of the route, [Refer GR 3.68 to 3.71, 3.80, 3.81 and SR 3.68.01 (c)].

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

- G. **INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:** However, before declaring a signal is defective, the setting of the point on the route to which it applies shall be inspected by the Station Master irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.70 & SR 3.77.01(b)]

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

- E. **DEFECTIVE INTERLOCKING**

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

- F. **DEFECTIVE/DAMAGED POINTS**

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

6.9 **PROVISION FOR WORKING OF MOTOR TROLRIES, MATERIAL LORRIES, TOWER WAGONS.**

Motor trolleys shall be worked as per GR 15.25 and SRs there to and BWM 5.11(2), 5.12, 5.13 and 5.14(2) (b). Material Lorries shall be worked in accordance with GR. 15.27 and SRs there to and BWM 5.11(2), 5.13 and 5.13(2) (b) .Trolleys, Motor Trolleys, Lorries which are not insulated shall not be allowed to run except on Line clear.

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

7.0 **BLOCKING OF THE LINES:**

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. 'Line Block' is to be activated on OPERATING PANEL by SS/SM on

duty following procedures as laid down in Para no. 6.2.. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23, SR5.04.01 (a) and SR 5.23.01(a)]

SECURING OF VEHICLES: -

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

NOTE

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

8.0 SHUNTING:-

8.1 GENERAL PRECAUTIONS

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

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:.

Shunting in face of an approaching train is governed by GR8.09 and relevant SR,s thereto.

8.3 PROHIBITION OF SHUNTING ANY SPECIAL FEATURES IF ANY:

[a] Hand shunting /Fly shunting is prohibited at both ends of the yard.

8.4 SHUNTING ON SINGLE LINE(MIDDLE LINE):

- a) Within station section governed by GR 8.10.
- b) Within last stop signal and opposite first stop signal: Governed by GR 8.12
- c) Beyond opposite first stop signal: Unless the line is blocked back, the line outside the first stop signal shall not be obstructed vide GR 8.13.

- d) During failure of block instrument: Block back message shall be exchanged between station Master at either end of such section which is intended to obstruct supported by private number. Both the station masters shall fix line block labels on block instruments and shall continue shunting.

8.5 SHUNTING ON DOUBLE LINE:

- i) When the line clear has been given no shunting shall be permitted in the block section in rear Vide GR 8.06 (1).
- ii) Shunting or obstruction for any other purpose shall not be permitted in the block section in rear unless it is clear and is blocked back Vide GR 8.06(2) and BWM 5.15[1][b].
- iii) Shunting or obstruction for any other purpose shall not be permitted in the block section in advance unless it is clear and is blocked forward Vide GR 8.06(3) and BWM 5.15[2][b].

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

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

8.6.1 SHUNTING OUTSIDE STATION SECTION:

- i) Shunting shall not be permitted in block section (i.e., in the block section in rear) unless it is clear and is blocked back.
- ii) Shunting shall not be permitted in block section in advance unless it is clear and is blocked forward.
- iii) When line clear is been given, no shunting shall be permitted in the block section rear vide GR. 8.05[2].
- iv) The line outside the station section and up to the Home Signal shall not be obstructed unless a Railway servant specially appointed in his behalf by the SS/SM who is in-charge of the operations, and unless -
The block section into which the shunting is to take place is clear of an approaching train and all relevant and necessary signals are kept "ON" position

a) SHUNTING WITHIN STATION SECTION :

If the necessary signals are kept at "ON", shunting may be carried on within the station section vide GR 8.05[2].

9.0 ABNORMAL CONDITIONS:**a) PROCEDURE TO BE FOLLOWED IN THE EVENT OF FOLLOWING – ABNORMAL CONDITIONS.****i) PARTIAL FAILURE: -**

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

b) TOTAL FAILURE OF COMMUNICATIONS:

In the event of single line working on a double line section during total failure of communication the provisions laid down in SR 6.02.02 shall be followed.

c) During the total failure of communications on double line trains shall be worked in accordance with the provision of SR 6.02.03

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

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

iii) TRAINS DELAYED IN BLOCK SECTIONS

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

iv) FAILURE OF AXLE COUNTER BLOCK/BPAC –

Procedure to be followed as detailed in para No.4. I(j).

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 are given in Para No.6.8.1 (Main body).
- ii) Procedure for emergency operation of points with point zone axle counter/Track circuits failure and emergency route release. [GR 3.39 and GR 3.77]

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

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

d) **REPORTING OF FAILURE OF POINTS. TRACK CIRCUITS/AXLE COUNTER AND INTERLOCKING-**

Whenever there is a failure of points, Track circuits/axle counter or any interlocking gear at station, the failure should be reported by SM on duty to the concerned Signalling Maintenance Staff on duty responsible for attending to the failure and only after receipt of the written memo from the Signalling Maintainer for rectification of the fault SM should restore the normal working. 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 communications train shall be worked in accordance with provision of SR 6.02.05.
- b) During partial interruption of communication the rules laid down in SR 6.02.03 shall be followed.

9.2 **TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:**

- i) In the event of single line working being introduced when communications are available the provisions laid down in SR 6.02.01 shall be followed.
- ii) During partial interruption of communication the procedure detailed in SR 6.02.03 shall be followed.

9.3 **DESPATCH OF TRAINS UNDER AUTHORITY TO PROCEED WITHOUT LINE CLEAR OR TO ASSIST THE CRD7PLED TRAIN:**

Rules and regulations for working trains on an obstructed line in case of obstruction or accident on the authority of block ticket (T/A-602) when communications are

available shall be followed in accordance with the provisions of GR 6.09 and SRs thereto.

10.0 VISIBILITY TEST OBJECT:

The signal lights of UP starter signal No.23 and DN starter signal No.22 of line No.1 during day and night are earmarked to serve visibility test object as per GR 3.61 (2) (b) (iii).

11.0 ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-'E')

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

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

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

12.1 STATION DETONATOR REGISTER (OPT/124):

A Register regarding detonator is maintained at the station.

12.2 INSTRUCTIONS:

This register contains the following parts.

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

Part - II: Particulars of receipt and stock of detonating (fog) signals at the station to be filled in whenever detonators are used or received.

Part - III: Periods of fogs, fog signal man on duty and details of detonators used.

Part - IV: Particulars of issue and testing of fog signals at the station.

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

APPENDICES

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

CERTIFICATE:

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

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

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1	No. of Level Crossing Gate	:	ML-460
2	Engineering or Traffic gate	:	Engineering Gate (‘B’ Class)
3	Under control of station master or permanent way inspector.	:	SSE/P.WAY/VZM
4	Location at Km.	:	KM. 815/27-29
5	At station	:	VZM
6	In between station	:	VZM-NML
7	BG/MG/NG	:	BG
8	Single line/double line/multiple line	:	Double line
9	Normal position	:	Closed to Road Traffic
10	Interlocked/ Non-Interlocked	:	Non-Interlocked
11	Means of Interlocking	:	Non-Interlocked
12	Provision of gate single at Km.	:	(i) Up Line : Nil (ii) DN Line : Nil
13	Signaling arrangement	:	----
14	Means of communication Telephone.	:	Telephone Connected with VZM Station
15	Width of the level crossing gate	:	7.5 M
16	Type of road	:	Other
17	Name of road	:	Village
18	Metalled /Non-Metalled	:	Non- Metalled
19	Approach road	:	Non- Metalled
20	Width of the road	:	8.0 M
21	Angle of road crossing (in case of the SKEW gates)	:	90 ⁰
22	Road gradients (if any)	:	[a]North/East Side: 1 in 20 [b]South/West Side: 1 in 20
23	Road alignment (straight/Curve)	:	[a] North/East Side : Straight [b] South/East Side : Straight

24	Provision of height gauges	: Provided
25	Type of barriers	: Couple Lifting Barriers
26	Length of check rails	: 9.5 M
27	Road surface in between level crossing gates.	: Level
28	Length of rumble strip/ speed breakers.	: 9.0 M
29	Road signs	: Provided
30	Speed breakers indication board	: Provided
31	TVU:	: 5011 August 2012
32	Census next due on	: June-2015
33	Demarcation for placement of detonators.	: Provided
34	No. of gateman working	: Two
35	Nearest Railway Medical Assistance	: VZM
36	Nearest Private Medical Assistance available (if any)	: VZM
37	List of equipment available (Yes/No)	: Yes

1.2 **EQUIPMENT:**

Items	<u>Quantity / Numbers</u>
1. Hand Signal Lamp Tri Colour	5 Nos.
2. Hand Signal Flag Green	1 No with mounted stick
3. Hand Signal Flag Red	6 Nos.
4. Banner Flag Red	5 Nos.
5. Posts for exhibiting red banner flag	4 Nos.
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in each case
8. Gate lamps	2 Nos.
9. Tommy Bar	1 No.
10. Mortar Pan	1 No.
11. Spade / Fowrah	1 No.
12. Rammer	1 No (In case of asphalted road this may not be provided)
13. Pick Axe	1 No (In case of asphalted road this may not be provided)
14. Tin case for flags	1 No.
15. Can for oil	1 No.
16. Water port / Bucket	1 No.
17. Canister for Muster Roll	1 No.

	Items	<u>Quantity / Numbers</u>
18.	Set of spare spectacles of gateman wearing glasses	1 No.
19.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1 No.
20.	Basket	1 No.
21.	Whistle	1 No.
22.	Wall Clock	1 No.
23.	Small chain for locking arrangement	1 No.

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

1. Gate Working Instructions in Hindi / English.
2. Gate Working Instructions in local vernacular language.
3. Gateman Rule Book in local vernacular language
4. List for tools and books.
5. Duty Roster.
6. Certificate for working as gateman.
7. Bio-data particulars of Gatemen, including date of passing vision test, initial / refresher course, safety camp etc.
8. Accident Register.
9. Record of last census of road traffic at level crossing gate.
10. Public Complaint Book.
11. Inspection Book.
12. Signal Failure and Inspection Register.

1.4 MODE OF OPERATION:

When level crossing gate is required to be opened for passage of road traffic, the gate man must operate the winch after following the instruction given in following item (i) to (iv).

- i) Gate men must seek permission from Station Master for opening the gate.
- ii) At LC gates with normal position close to road traffic, if the gate is required to be opened to pass the road traffic, the Gate man shall exchange PN with the SM. and confirm that the train has pass completely from his gate, these offer the SM may allow the gate man to open the gate. In such a situation the SM, before dispatching or giving line clear for any other train.
- iii) Suitable entries shall be made by the Station master in the train signal register , Private number Book and log book in red ink.
- iv) After passage of road traffic, the gate man shall close the gate and confirm this to Station Master, under exchange of private number.

- v) Before any train is allowed to enter the block section again, the Station Master must ensure that private number from the gate man has been received in token of his having closed the gate.
- vi) Gate once closed for road traffic must on no account be open unless this is authorized by the Station Master, under exchange of private number.

1.5 **DUTIES OF GATEMAN:**

1. **ALERTNESS:**

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

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

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

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

3. **ROUTING DUTIES OF GATEMAN:**

- i) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- ii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- iii) Except where otherwise prescribed under Special Instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- iv) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, and vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

- v) Gateman shall also prepared to repeat any signal which guard may give to Loco Pilot on walkie-talkie or in any other way.
- vi) If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- vii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- viii) In the event of gate signal becoming defective the gateman shall maintain the signal in the ‘ON’ position even by disconnecting the signal or the wire if necessary.
- ix) At the gate whose signal have become defective, the gateman shall close and lock the lifting barriers on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- x) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- xi) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- xii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- xiii) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xiv) Gateman shall see that the channel for the flange of the wheel is kept clean.
- xv) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- xvi) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvii) Gateman on electrified section shall watch that road vehicles / animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- xiii) Gateman shall prevent tress passing by persons or cattle to the maximum extent.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

The gateman shall protect the line as under:-

a) On double line section:

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

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

b) **Other action to be taken by Gateman:**

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

1.6 ENGINEERING ITEMS:

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

ANNEXURE – V**WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES,
NON-INTERLOCKED, PROVIDED WITH TELEPHONE, WITH NORMAL
POSITION “CLOSED TO ROAD TRAFFIC”**

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

1. Mode of Operation:

When level crossing gate is required to be opened for passage of road traffic, the gate man must operate the winch after following the instruction given in following item (i) to (iv).

2. Exchange of Private Number:

- (i) Gateman must seek permission from Station Master for opening the gate.
- (ii) At LC gates with normal position closed to road traffic, if the gate is required to be opened to pass the road traffic, the gateman shall exchange PN with the SM, and confirm that the train has pass completely from his gate, there often the SM may all the Gateman to open the gate. In such a situation the SM, before dispatching or giving line clear for any other train in the block section shall ensure that the level crossing gate is closed for road traffic and assurance of the gateman is taken through exchange of PN.
- (iii) Suitable entries shall be made by the Station Master in the Train Signal Register, Private Number Book and Log Book in red ink.
- (iv) After passage of road traffic, the gateman shall close the gate and confirm this to Station Master, under exchange of private number.
- (v) Before any train is allowed to enter the block section again, the Station Master must ensure that private number from the gateman has been received in token of his having closed the gate.
- (vi) Gate once closed for road traffic must on no account be opened unless this is authorized by the Station Master, under exchange of private number.

3. Failure of Telephonic Communication:

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

- (i) Station Master at the dispatching end shall issue a caution order to the driver of the departing train.
- (ii) The caution order shall advise the Loco Pilot to whistle continuously and approach the gate cautiously.

- (iii) The Loco Pilot shall be instructed to pass the gate cautiously, on being hand signaled by the gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the gate and depute his Assistant Loco Pilot to see the condition of the gate. If the gate is closed, the Assistant Loco Pilot will give the all right signal and if the gate is not closed the Assistant Loco Pilot must close the gate and then give all right signal. In the absence of the Assistant Loco Pilot, the Loco Pilot may take the assistance of Assistant Guard / Guard.
- (iv) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- (v) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) Station Master shall also advise the gateman through gangman / patrolman or Loco Pilot of the first train that the telephone has become defective.
- (vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- (viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection / fit memo for the same.

4. Failure of Lifting Barriers:

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

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

5. Obstruction at the Gate:

- (i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately put back gate signals to ‘ON’ Position
- (ii) He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (iii) Immediately after this, the gateman shall advise the Station Master on duty, regarding defects / obstruction at the gate, under exchange of private number.
- (iv) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- (v) Gateman shall then rush with detonators, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no.1.5(5).
- (vi) Thereafter he shall protect the gate from the other direction also.
- (vii) He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the Station Master who shall not start the train unless he has been ensured by the gateman that the road vehicle or the lifting barriers are not fouling the track.
- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco Pilot of all trains to proceed cautiously, and pass the gate on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- (xi) Gateman shall secure the gate against road traffic by means of safety cabins and padlocks and thereafter exhibit green hand signal of the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.

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

6. Obstruction on the Track near Level Crossing:

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

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

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1	No. of Level Crossing Gate	:	ML-461
2	Engineering or Traffic gate	:	Engineering Gate (‘B’ Class)
3	Under control of station master or permanent way inspector.	:	SSE/P.WAY/VZM
4	Location at Km.	:	KM. 812/2-4
5	At station	:	VZM
6	In between station	:	VZM-NML
7	BG/MG/NG	:	BG
8	Single line/double line/multiple line	:	Double line
9	Normal position	:	Closed to Road Traffic
10	Interlocked/ Non-Interlocked	:	Non-Interlocked
11	Means of Interlocking	:	Non-Interlocked
12	Provision of gate single at Km.	:	(iii) Up Line : Nil (iv) DN Line : Nil
13	Signaling arrangement	:	----
14	Means of communication Telephone.	:	Telephone Connected with VZM Station
15	Width of the level crossing gate	:	5.5 M
16	Type of road	:	Other
17	Name of road	:	Village
18	Metalled /Non-Metalled	:	Non- Metalled
19	Approach road	:	Non- Metalled
20	Width of the road	:	7.0 M
21	Angle of road crossing (in case of the SKEW gates)	:	90 ⁰
22	Road gradients (if any)	:	[a]North/East Side: 1 in 20 [b]South/West Side: 1 in 20
23	Road alignment (straight/Curve)	:	[a] North/East Side : Straight [b] South/East Side : Straight

24	Provision of height gauges	: Provided
25	Type of barriers	: Couple Lifting Barriers
26	Length of check rails	: 7.5 M
27	Road surface in between level crossing gates.	: Level
28	Length of rumble strip/ speed breakers.	: 8.0 M
29	Road signs	: Provided
30	Speed breakers indication board	: Provided
31	TVU:	: 8624 August 2012
32	Census next due on	: 08/2015
33	Demarcation for placement of detonators.	: Provided
34	No. of gateman working	: Two
35	Nearest Railway Medical Assistance	: VZM
36	Nearest Private Medical Assistance available (if any)	: VZM
37	List of equipment available (Yes/No)	: Yes

1.2 **EQUIPMENT:**

Items	<u>Quantity / Numbers</u>
1. Hand Signal Lamp Tri Colour	5 Nos.
2. Hand Signal Flag Green	1 No with mounted stick
3. Hand Signal Flag Red	6 Nos.
4. Banner Flag Red	5 Nos.
5. Posts for exhibiting red banner flag	4 Nos.
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in each case
8. Gate lamps	2 Nos.
9. Tommy Bar	1 No.
10. Mortar Pan	1 No.
11. Spade / Fowrah	1 No.
12. Rammer	1 No (In case of asphalted road this may not be provided)
13. Pick Axe	1 No (In case of asphalted road this may not be provided)
14. Tin case for flags	1 No.
15. Can for oil	1 No.
16. Water port / Bucket	1 No.
17. Canister for Muster Roll	1 No.

	Items	<u>Quantity / Numbers</u>
18.	Set of spare spectacles of gateman wearing glasses	1 No.
19.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1 No.
20.	Basket	1 No.
21.	Whistle	1 No.
22.	Wall Clock	1 No.
23.	Small chain for locking arrangement	1 No.

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

1. Gate Working Instructions in Hindi / English.
2. Gate Working Instructions in local vernacular language.
3. Gateman Rule Book in local vernacular language
4. List for tools and books.
5. Duty Roster.
6. Certificate for working as gateman.
7. Bio-data particulars of Gatemen, including date of passing vision test, initial / refresher course, safety camp etc.
8. Accident Register.
9. Record of last census of road traffic at level crossing gate.
10. Public Complaint Book.
11. Inspection Book.
12. Signal Failure and Inspection Register.

1.4 MODE OF OPERATION:

When level crossing gate is required to be opened for passage of road traffic, the gate man must operate the winch after following the instruction given in following item (i) to (iv).

- i) Gate men must seek permission from Station Master for opening the gate.
- ii) At LC gates with normal position close to road traffic, if the gate is required to be opened to pass the road traffic, the Gate man shall exchange PN with the SM. and confirm that the train has pass completely from his gate, these offer the SM may allow the gate man to open the gate. In such a situation the SM, before dispatching or giving line clear for any other train.
- iii) Suitable entries shall be made by the Station master in the train signal register , Private number Book and log book in red ink.
- iv) After passage of road traffic, the gate man shall close the gate and confirm this to Station Master, under exchange of private number.

- v) Before any train is allowed to enter the block section again, the Station Master must ensure that private number from the gate man has been received in token of his having closed the gate.
- vi) Gate once closed for road traffic must on no account be open unless this is authorized by the Station Master, under exchange of private number.

1.5 DUTIES OF GATEMAN:

1. ALERTNESS:

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

2. POSITION DURING PASSAGE OF TRAINS:

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

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

3. ROUTING DUTIES OF GATEMAN:

- i) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- ii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- iii) Except where otherwise prescribed under Special Instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- iv) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, and vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

- v) Gateman shall also prepared to repeat any signal which guard may give to Loco Pilot on walkie-talkie or in any other way.
- vi) If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- vii) Gateman shall report to the nearest Station Master, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- viii) In the event of gate signal becoming defective the gateman shall maintain the signal in the ‘ON’ position even by disconnecting the signal or the wire if necessary.
- ix) At the gate whose signal have become defective, the gateman shall close and lock the lifting barriers on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- x) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- xi) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- xii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- xiii) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xiv) Gateman shall see that the channel for the flange of the wheel is kept clean.
- xv) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- xvi) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvii) Gateman on electrified section shall watch that road vehicles / animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- xviii) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

The gateman shall protect the line as under:-

a) On double line section:

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

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

b) **Other action to be taken by Gateman:**

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

1.6 ENGINEERING ITEMS:

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

ANNEXURE – V**WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES,
NON-INTERLOCKED, PROVIDED WITH TELEPHONE, WITH NORMAL
POSITION “CLOSED TO ROAD TRAFFIC”**

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

1. Mode of Operation:

When level crossing gate is required to be opened for passage of road traffic, the gate man must operate the winch after following the instruction given in following item (i) to (iv).

2. Exchange of Private Number:

- (i) Gateman must seek permission from Station Master for opening the gate.
- (ii) At LC gates with normal position closed to road traffic, if the gate is required to be opened to pass the road traffic, the gateman shall exchange PN with the SM, and confirm that the train has pass completely from his gate, there often the SM may all the Gateman to open the gate. In such a situation the SM, before dispatching or giving line clear for any other train in the block section shall ensure that the level crossing gate is closed for road traffic and assurance of the gateman is taken through exchange of PN.
- (iii) Suitable entries shall be made by the Station Master in the Train Signal Register, Private Number Book and Log Book in red ink.
- (iv) After passage of road traffic, the gateman shall close the gate and confirm this to Station Master, under exchange of private number.
- (v) Before any train is allowed to enter the block section again, the Station Master must ensure that private number from the gateman has been received in token of his having closed the gate.
- (vi) Gate once closed for road traffic must on no account be opened unless this is authorized by the Station Master, under exchange of private number.

3. Failure of Telephonic Communication:

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

- (i) Station Master at the dispatching end shall issue a caution order to the drive of the departing train.
- (ii) The caution order shall advise the Loco Pilot to whistle continuously and approach the gate cautiously.

- (iii) The Loco Pilot shall be instructed to pass the gate cautiously, on being hand signaled by the gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the gate and depute his Assistant Loco Pilot to see the condition of the gate. If the gate is closed, the Assistant Loco Pilot will give the all right signal and if the gate is not closed the Assistant Loco Pilot must close the gate and then give all right signal. In the absence of the Assistant Loco Pilot, the Loco Pilot may take the assistance of Assistant Guard / Guard.
- (iv) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- (v) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) Station Master shall also advise the gateman through gangman / patrolman or Loco Pilot of the first train that the telephone has become defective.
- (vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- (viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection / fit memo for the same.

4. Failure of Lifting Barriers:

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

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

5. Obstruction at the Gate:

- (i) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately put back gate signals to ‘ON’ Position
- (ii) He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (iii) Immediately after this, the gateman shall advise the Station Master on duty, regarding defects / obstruction at the gate, under exchange of private number.
- (iv) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- (v) Gateman shall then rush with detonators, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no.1.5(5).
- (vi) Thereafter he shall protect the gate from the other direction also.
- (vii) He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the Station Master who shall not start the train unless he has been ensured by the gateman that the road vehicle or the lifting barriers are not fouling the track.
- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco Pilot of all trains to proceed cautiously, and pass the gate on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- (xi) Gateman shall secure the gate against road traffic by means of safety cabins and padlocks and thereafter exhibit green hand signal of the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.

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

6. Obstruction on the Track near Level Crossing:

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

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

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1	No. of Level Crossing Gate	:	ML-462
2	Engineering or Traffic gate	:	Engineering Gate –“A” Class
3	Under control of station master or permanent way inspector.	:	SSE (P)-VZM
4	Location at Km.	:	KM. 816/31-33
5	At station	:	VZM
6	In between station	:	VZM-NML
7	BG/MG/NG	:	BG
8	Single line/double line/multiple line	:	Double Line
9	Normal position	:	Open to Road Traffic
10	Interlocked/ Non-Interlocked	:	Interlocked
11	Means of Interlocking	:	Electrical Key Transmission.
12	Provision of gate single at Km.	:	i) Up Line : 816/28-29 ii) DN Line : 817/1-2
13	Signaling arrangement	:	MACLS
14	Means of communication Telephone.	:	Telephone connected with VZM Station
15	Width of the level crossing gate	:	7.5 M
16	Type of road	:	Other
17	Name of road	:	VZM Station Road
18	Metalled /Non-Metalled	:	Metalled
19	Approach road	:	Metalled
20	Width of the road	:	8.0 M
21	Angle of road crossing (in case of the SKEW gates)	:	90 ⁰
22	Road gradients (if any)	:	[a]North/East Side: 1 in 20 [b]South/West Side: 1 in 20
23	Road alignment (straight/Curve)	:	[a] North/East Side : Straight [b] South/East Side : Straight

24	Provision of height gauges	: Provided
25	Type of barriers	: Couple Lifting Barriers
26	Length of check rails	: 9.5 M
27	Road surface in between level crossing gates.	: Level C.C Block
28	Length of rumble strip/ speed breakers.	: 9.0 M
29	Road signs	: Provided
30	Speed breakers indication board	: Provided
31	TVU:	: 31055 Jun-2012
32	Census next due on	: June-2015
33	Demarcation for placement of detonators.	: Provided
34	No. of gateman working	: Three
35	Nearest Railway Medical Assistance	: Vizianagaram
36	Nearest Private Medical Assistance available (if any)	: Vizianagaram
37	List of equipment available (Yes/No)	: Yes

1.2 EQUIPMENT:

Items	Quantity / Numbers
1. Hand Signal Lamp Tri Colour	3 (5 on Quadruple / Line or twin single line)
2. Hand Signal Flag Green	1 No with mounted stick
3. Hand Signal Flag Red	3 (6 Nos. on Quadruple / Line or Twin Single line and 7 in case Hexaple Section mounted on sticks)
4. Banner Flag Red	3 (5 on Quadruple / Line or twin single line)
5. Posts for exhibiting red banner flag	2 (4 on Q / Twin single line and 5 on Hexaple section)
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in each case
8. Gate lamps	2 Nos.
9. Tommy Bar	1 No.
10. Mortar Pan	1 No.
11. Spade / Fowrah	1 No.
12. Rammer	1 No (In case of asphalted road this may not be provided)
13. Pick Axe	1 No (In case of asphalted road this may not be provided)
14. Tin case for flags	1 No.
15. Can for oil	1 No.
16. Water port / Bucket	1 No.
17. Canister for Muster Roll	1 No.

Items	<u>Quantity / Numbers</u>
18. Set of spare spectacles of gateman wearing glasses	1 No.
19. Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1 No.
20. Basket	1 No.
21. Whistle	1 No.
22. Wall Clock	1 No.
23. Small chain for locking arrangement	2 No.

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

1. Gate Working Instructions in Hindi / English.
2. Gate Working Instructions in local vernacular language.
3. Gateman Rule Book in local vernacular language
4. List for tools and books.
5. Duty Roster.
6. Certificate for working as gateman.
7. Bio-data particulars of Gatemen, including date of passing vision test, initial / refresher course, safety camp etc.
8. Accident Register.
9. Record of last census of road traffic at level crossing gate.
10. Public Complaint Book.
11. Inspection Book.

1.4 MODE OF OPERATION:

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 despatch . Gate man on duty shall ensure clearance of road traffic close and lock the gate. There after he will perform the following procedure to take off the Gate home signals as the case may be.

- i) Key 'E' extracted from the winch after closing level crossing gate releases gate lever No.1 GF.
- ii) Lever 1 GF thus reversed effects boom locking and releases key 'F' from 1 GF.
- iii) Key 'F' is transmitted electrically to SM /RRI to release control number 29 to take OFF UP Gate Home signal No. 1S and to take OFF DN Advanced starter signal No.48 in conjunction with 2 S.

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

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

2. POSITION DURING PASSAGE OF TRAINS:

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

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

3. ROUTING DUTIES OF GATEMAN:

- i) Gateman shall ensure that red flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.
- ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- iv) Except where otherwise prescribed under Special Instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, and vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi) Gateman shall also prepared to repeat any signal which guard may give to Loco Pilot on walkie-talkie or in any other way.

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

4. ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

- i) He shall take prompt action to warn the Loco Pilot / guard of the passing train by showing red flag by day and red light by night.
- ii) He shall simultaneously try to draw the attention of the Loco Pilot / guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.

- iii) If Loco Pilot / guard fails to take notice, gateman shall immediately inform the Station Master, If connected on telephone, to take appropriate action, under exchange of private number.
- iv) In case of train parting, gateman shall not show stop hand signal but shall show prescribed signal for train parting.
- v) He shall endeavour to attract the attention of the Loco Pilot / guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.
- vi) In case the train does not stop, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action, under exchange of private number.

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

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

The gateman shall protect the line as under:-

a) **On double line section:**

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

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

b) **On single line section:**

- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
- iii) Gateman shall then proceed to protect the gate along with detonators, fusees and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
 - vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
 - vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- c) **Other action to be taken by Gateman:**
- i) At night Gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub paras (a) and (b) above.
 - ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
 - iii) He shall note down the particulars of the road vehicle, vehicle number, name of the driver, owner and relay these details to the nearest Station Master or SSE(P-Way) regarding the particulars and obstructions at the level crossing gate, through messenger or through means available.

1.6 **ENGINEERING ITEMS:**

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

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

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

- i) Annexure – I Engineering Level Crossing Gate, Interlocked with gate signals, provided with telephone, with normal position ‘Open to road traffic’.
- ii) Annexure – II Traffic Level Crossing Gate, Interlocked with stop signals of the station, provided with telephone, with normal position ‘Open to road traffic’.

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

ANNEXURE – I

**WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES
INTERLOCKED WITH GATE SIGNALS, PROVIDED WITH TELEPHONE WITH
NORMAL POSITION “OPEN TO ROAD TRAFFIC”****(General Instructions are common for all types of Manned Level Crossing Gates)****1.0 MODE OF OPERATION:**

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 despatch . Gate man on duty shall ensure clearance of road traffic close and lock the gate. There after he will perform the following procedure to take off the Gate home signals as the case may be.

- i) Key 'E' extracted from the winch after closing level crossing gate releases gate lever No.1 GF.
- ii) Lever 1 GF thus reversed effects boom locking and releases key 'F' from 1 GF.
- iii) Key 'F' is transmitted electrically to SM /RRI to release control number 29 to take OFF UP Gate Home signal No. 1S and to take OFF DN Advanced starter signal No.48 in conjunction with 2 S.

2. Exchange of Private Numbers:

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

3. Failure of Telephonic Communication:

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

- i) If the telephone falls at the gate connected with the station at the despatching end, Station Master shall issue a caution order to the Loco Pilot of the departing train.

- ii) Station Master shall advise the Loco Pilot to whistle continuously and proceed cautiously while approaching the gate.
- iii) In case the gate signal is ‘ON’ he should stop short of the gate signal and follow the procedure laid down under GR 3.73.
- iv) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- v) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- vi) Station Master will also advise the gateman through Gangman / Patrolman / Loco Pilot of the first train that the telephone has become defective.
- vii) Station Master should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection / fit memo for the same.

4. Failure of Lifting Barriers :

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

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

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

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

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

- i) If the gate key cannot be extracted from the winch, gate signal lever or key transmitter then gateman must immediately inform the Station Master / Switchman / Cabinman on duty on telephone, under exchange of private number.
- ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception / despatch of trains as prescribed for non-interlocked gates, should be adopted.

- iii) The gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals.
- iv) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
- v) He shall also advise the Station Master at the despatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- vi) Station Master shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- vii) Normal working will be resumed only after S&T staff repair the key transmitter and issue reconnection / fit memo for the same.
- viii) After rectification, the Emergency key shall be replaced in the Emergency Key Box and resealed by the S&T maintainer.

7. Defective Gate Signals:

- i) The gateman shall treat the gate as defective and must not lower them under following circumstances:
 - a) If gate signals can be taken ‘OFF’ without closing the gate, or
 - b) The key can be extracted from the operation winch when the gate is in open condition, or
 - c) The key can be extracted from the gate barrier when the gate is in open condition
- ii) If the Gate or the Gate Signal or Warner / Distant Signal becomes defective in ‘OFF’ position, the gateman will make all efforts to put it at ‘ON’ position even by cutting signal wires, if necessary.
- iii) The gateman will immediately advise the Station Master on duty, under exchange of private number, regarding defective gate signals.
- iv) Thereafter, the gate must be treated as non-interlocked and procedure for reception / dispatch as prescribed for non-interlocked gates should be adopted.
- v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- vi) Station Master on duty will issue a caution order to the Loco Pilot of a departing train.

- vii) He shall also advise the Station Master at the despatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching a train in the block section from his end.
- viii) Station Master shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- ix) Normal working will be resumed only after S&T staff rectify the defective gate signal and issue reconnection / fit memo for the same,

8. Obstruction at the Gate:

- i) If the gate is broken by road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately put back gate signals to ‘ON’ position.
- ii) He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate for this purpose.
- iii) Immediately after this, the gateman shall advise the Station Master / Switchman / Cabinman on duty regarding the defects / obstructions at the gate, under exchange of private number.
- iv) If there is no response from the Station Master / Switchman / Cabinman after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gateman shall then rush with detonators, fusee and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no. 1.5(5).
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.
- viii) The Station Master shall also inform the Station Master at the despatching end, under exchange of private number, asking him not to despatch any train in the block section from his end, until the track has been cleared of all obstruction.
- ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- x) Station Master shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate signal at ‘ON’ position on green hand signal of the gateman, of the gate is broken, but is clear of any obstruction.

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

9. Obstruction on the Track near Level Crossing Gate:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No.8 above. If the obstruction fouls the Level Crossing Gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

**APPENDIX 'A' TO STATION WORKING RULES OF VIZIANAGARAM
STATION LEVEL CROSSING GATES**

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1	No. of Level Crossing Gate	:	ML-463
2	Engineering or Traffic gate	:	Engineering Gate –“B1” Class
3	Under control of station master or permanent way inspector.	:	SSE (P)-VZM
4	Location at Km.	:	KM. 821/9-11
5	At station	:	VZM
6	In between station	:	VZM-KUK
7	BG/MG/NG	:	BG
8	Single line/double line/multiple line	:	Double Line
9	Normal position	:	Open to Road Traffic
10	Interlocked/ Non-Interlocked	:	Interlocked
11	Means of Interlocking	:	Electrical Key Transmission.
12	Provision of gate single at Km.	:	i) Up Line :Up Signal ii) DN Line : Dn Signal
13	Signaling arrangement	:	MACLS
14	Means of communication Telephone.	:	Telephone connected with VZM RRI Cabin
15	Width of the level crossing gate	:	5.5 M
16	Type of road	:	Other
17	Name of road	:	VZM Station Road
18	Metalled /Non-Metalled	:	Non-Metalled
19	Approach road	:	Metalled
20	Width of the road	:	8.0 M
21	Angle of road crossing (in case of the SKEW gates)	:	90 ⁰
22	Road gradients (if any)	:	[a]North/East Side: 1 in 20 [b]South/West Side: 1 in 20
23	Road alignment (straight/Curve)	:	[a] North/East Side : Straight [b] South/East Side : Straight

24	Provision of height gauges	: Provided
25	Type of barriers	: Couple Lifting Barriers
26	Length of check rails	: 9.5 M
27	Road surface in between level crossing gates.	: Level C.C Block
28	Length of rumble strip/ speed breakers.	: 9.0 M
29	Road signs	: Provided
30	Speed breakers indication board	: Provided
31	TVU:	: 33433 Sep-2012
32	Census next due on	: Sep-2015
33	Demarcation for placement of detonators.	: Provided
34	No. of gateman working	: Three
35	Nearest Railway Medical Assistance	: Vizianagaram
36	Nearest Private Medical Assistance available (if any)	: Vizianagaram
37	List of equipment available (Yes/No)	: Yes

1.2 EQUIPMENT:

<u>Items</u>	<u>Quantity / Numbers</u>
1. Hand Signal Lamp Tri Colour	3 (5 on Quadruple / Line or twin single line)
2. Hand Signal Flag Green	1 No with mounted stick
3. Hand Signal Flag Red	3 (6 Nos. on Quadruple / Line or Twin Single line and 7 in case Hexaple Section mounted on sticks)
4. Banner Flag Red	3 (5 on Quadruple / Line or twin single line)
5. Posts for exhibiting red banner flag	2 (4 on Q / Twin single line and 5 on Hexaple section)
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in each case
8. Gate lamps	2 Nos.
9. Tommy Bar	1 No.
10. Mortar Pan	1 No.
11. Spade / Fowrah	1 No.
12. Rammer	1 No (In case of asphalted road this may not be provided)
13. Pick Axe	1 No (In case of asphalted road this may not be provided)
14. Tin case for flags	1 No.
15. Can for oil	1 No.
16. Water port / Bucket	1 No.
17. Canister for Muster Roll	1 No.

Items	<u>Quantity / Numbers</u>
18. Set of spare spectacles of gateman wearing glasses	1 No.
19. Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1 No.
20. Basket	1 No.
21. Whistle	1 No.
22. Wall Clock	1 No.
23. Small chain for locking arrangement	2 No.

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

1. Gate Working Instructions in Hindi / English.
2. Gate Working Instructions in local vernacular language.
3. Gateman Rule Book in local vernacular language
4. List for tools and books.
5. Duty Roster.
6. Certificate for working as gateman.
7. Bio-data particulars of Gatemen, including date of passing vision test, initial / refresher course, safety camp etc.
8. Accident Register.
9. Record of last census of road traffic at level crossing gate.
10. Public Complaint Book.
11. Inspection Book.

1.4 MODE OF OPERATION:

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 despatch. Gate man on duty shall ensure clearance of road traffic close and lock the gate. There after he will perform the following procedure to take off the Gate home signals as the case may be.

- i) Key 'F' extracted from the winch after closing level crossing gate releases gate lever No.1 GF.
- ii) Lever 1 GF thus reversed effects boom locking and releases key 'P1' from 1 GF.
- iii) Key P1 extracted after boom locking, is to be inserted in RKT and turned.
- iv) Key in contact of RKT along with Reversal of concerned switches will clear concerned signal as follows

- i) Switch (1)S for UP home Signal No. (1)S of UP Main.
- ii) Switch (3) S for UP home Signal No. (3)S of Middle Line.
- iii) Switch (2) S for DN home Signal No. (2)S of DN Main.
- iv) Switch (4) S for DN home Signal No. (4)S of Middle Line.

1.5 **DUTIES OF GATEMAN:**

1. **ALERTNESS:**

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

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

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

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

3. **ROUTING DUTIES OF GATEMAN:**

- i) Gateman shall ensure that red flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.
- ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- iv) Except where otherwise prescribed under Special Instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, and vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

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

4. ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

- i) He shall take prompt action to warn the Loco Pilot / guard of the passing train by showing red flag by day and red light by night.

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

The gateman shall protect the line as under:-

a) On double line section:

- i) If both lines are obstructed the Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.
- ii) Then he will similarly plant the other red banner flag by day and a red light by night on the other line 5 meters away from the site of obstruction.

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

b) **On single line section:**

- i) Gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the direction from which a train is expected to arrive first.
- ii) Then he will similarly plant the other red banner flag by day and red light by night towards the other direction 5 meters away from the site of obstruction.
- iii) Gateman shall then proceed to protect the gate along with detonators, fusees and red flag by day and red hand signal lamp by night.
- iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600 meters and place one detonator on the line. Thereafter he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

- v) Thereafter, he shall proceed towards the other direction, showing red hand signal, similarly place detonators as described in para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
 - vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
 - vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- c) **Other action to be taken by Gateman:**
- i) At night Gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub paras (a) and (b) above.
 - ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
 - iii) He shall note down the particulars of the road vehicle, vehicle number, name of the driver, owner and relay these details to the nearest Station Master or SSE(P-Way) regarding the particulars and obstructions at the level crossing gate, through messenger or through means available.

1.6 **ENGINEERING ITEMS:**

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

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

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

- i) Annexure – I Engineering Level Crossing Gate, Interlocked with gate signals, provided with telephone, with normal position ‘Open to road traffic’.

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

ANNEXURE – I

**WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES
INTERLOCKED WITH GATE SIGNALS, PROVIDED WITH TELEPHONE WITH
NORMAL POSITION “OPEN TO ROAD TRAFFIC”**

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

1.0 MODE OF OPERATION:

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 despatch. Gate man on duty shall ensure clearance of road traffic close and lock the gate. There after he will perform the following procedure to take off the Gate home signals as the case may be.

- i) Key 'F' extracted from the winch after closing level crossing gate releases gate lever No.1 GF.
- ii) Lever 1 GF thus reversed effects boom locking and releases key 'P1' from 1 GF.
- iii) Key P1 extracted after boom locking, is to be inserted in RKT and turned.
- iv) Key in contact of RKT along with Reversal of concerned switches will clear concerned signal as follows
 - i) Switch (1)S for UP home Signal No. (1)S of UP Main.
 - ii) Switch (3) S for UP home Signal No. (3)S of Middle Line.
 - iii) Switch (2) S for DN home Signal No. (2)S of DN Main.
 - iv) Switch (4) S for DN home Signal No. (4)S of Middle Line.

2. Exchange of Private Numbers:

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

3. Failure of Telephonic Communication:

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

- i) If the telephone falls at the gate connected with the station at the despatching end, Station Master shall issue a caution order to the Loco Pilot of the departing train.
- ii) Station Master shall advise the Loco Pilot to whistle continuously and proceed cautiously while approaching the gate.
- iii) In case the gate signal is ‘ON’ he should stop short of the gate signal and follow the procedure laid down under GR 3.73.
- iv) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- v) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- vi) Station Master will also advise the gateman through Gangman / Patrolman / Loco Pilot of the first train that the telephone has become defective.
- vii) Station Master should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection / fit memo for the same.

4. Failure of Lifting Barriers :

- i) When the gate cannot be closed due to failure of lifting barriers, the gateman shall immediately inform the Station Master on duty under exchange of private number, and ensure that lifting of barriers do not foul the track.
- ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- iii) Gateman shall secure that gate against road traffic by means of safety chains and padlocks.
- iv) After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light to the loco pilot of the approaching train.
- v) Station Master on duty shall issue caution order to the loco pilot of a departing train.

- vi) He shall also advise the Station Master at the dispatching end, under exchange of private number; to similarly issue a caution order to the Loco Pilot before despatching a train in the block section.
- vii) Station Master shall advise maintenance staff responsible for maintaining the lifting barrier to rectify the same at the earliest.
- viii) Normal working will be resumed only after maintenance staff repair the lifting barrier and issue reconnection / fit memo for the same.

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

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

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

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

7. Defective Gate Signals:

- i) The gateman shall treat the gate as defective and must not lower them under following circumstances:
 - a) If gate signals can be taken ‘OFF’ without closing the gate, or
 - b) The key can be extracted from the operation winch when the gate is in open condition, or
 - c) The key can be extracted from the gate barrier when the gate is in open condition
- ii) If the Gate or the Gate Signal or Warner / Distant Signal becomes defective in ‘OFF’ position, the gateman will make all efforts to put it at ‘ON’ position even by cutting signal wires, if necessary.
- iii) The gateman will immediately advise the Station Master on duty, under exchange of private number, regarding defective gate signals.

- iv) Thereafter, the gate must be treated as non-interlocked and procedure for reception / dispatch as prescribed for non-interlocked gates should be adopted.
- v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- vi) Station Master on duty will issue a caution order to the Loco Pilot of a departing train.
- vii) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching a train in the block section from his end.
- viii) Station Master shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- ix) Normal working will be resumed only after S&T staff rectify the defective gate signal and issue reconnection / fit memo for the same,

8. Obstruction at the Gate:

- i) If the gate is broken by road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately put back gate signals to ‘ON’ position.
- ii) He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate for this purpose.
- iii) Immediately after this, the gateman shall advise the Station Master / Switchman / Cabinman on duty regarding the defects / obstructions at the gate, under exchange of private number.
- iv) If there is no response from the Station Master / Switchman / Cabinman after two or three attempts, he shall first protect the gate and then inform on phone.
- v) Gateman shall then rush with detonators, fusee and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no. 1.5(5).
- vi) Thereafter he shall protect the gate from the other direction also.
- vii) He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.

- viii) The Station Master shall also inform the Station Master at the despatching end, under exchange of private number, asking him not to despatch any train in the block section from his end, until the track has been cleared of all obstruction.
- ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- x) Station Master shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate signal at ‘ON’ position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks, and there after exhibit green hand signal, if the gate is not obstructed.
- xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xiii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection / fit memo for the same.

9. Obstruction on the Track near Level Crossing Gate:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No.8 above. If the obstruction fouls the Level Crossing Gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

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

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1	No. of Level Crossing Gate	:	ML-464
2	Engineering or Traffic gate	:	Engineering Gate –“B1” Class
3	Under control of station master or permanent way inspector.	:	SSE (P)-VZM
4	Location at Km.	:	KM. 822/13-15
5	At station	:	VZM
6	In between station	:	VZM-KUK
7	BG/MG/NG	:	BG
8	Single line/double line/multiple line	:	Double Line
9	Normal position	:	Open to Road Traffic
10	Interlocked/ Non-Interlocked	:	Interlocked
11	Means of Interlocking	:	Electrical Key Transmission.
12	Provision of gate single at Km.	:	i) Up Line : ii) DN Line :
13	Signaling arrangement	:	MACLS
14	Means of communication Telephone.	:	Telephone connected with VZM RRI Cabin
15	Width of the level crossing gate	:	7.5 M
16	Type of road	:	Other
17	Name of road	:	VZM Station Road
18	Metalled /Non-Metalled	:	Metalled
19	Approach road	:	Metalled
20	Width of the road	:	8.0 M
21	Angle of road crossing (in case of the SKEW gates)	:	90 ⁰
22	Road gradients (if any)	:	[a]North/East Side: 1 in 20 [b]South/West Side: 1 in 20
23	Road alignment (straight/Curve)	:	[a] North/East Side : Straight [b] South/East Side : Straight

24	Provision of height gauges	: Provided
25	Type of barriers	: Couple Lifting Barriers
26	Length of check rails	: 9.5 M
27	Road surface in between level crossing gates.	: Level /B.T.Road
28	Length of rumble strip/ speed breakers.	: 9.0 M
29	Road signs	: Provided
30	Speed breakers indication board	: Provided
31	TVU:	: 26539 Sep-2012
32	Census next due on	: Sep-2015
33	Demarcation for placement of detonators.	: Provided
34	No. of gateman working	: Three
35	Nearest Railway Medical Assistance	: Vizianagaram
36	Nearest Private Medical Assistance available (if any)	: Vizianagaram
37	List of equipment available (Yes/No)	: Yes

1.2 EQUIPMENT:

Items	Quantity / Numbers
1. Hand Signal Lamp Tri Colour	3 (5 on Quadruple / Line or twin single line)
2. Hand Signal Flag Green	1 No with mounted stick
3. Hand Signal Flag Red	3 (6 Nos. on Quadruple / Line or Twin Single line and 7 in case Hexaple Section mounted on sticks)
4. Banner Flag Red	3 (5 on Quadruple / Line or twin single line)
5. Posts for exhibiting red banner flag	2 (4 on Q / Twin single line and 5 on Hexaple section)
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in each case
8. Gate lamps	2 Nos.
9. Tommy Bar	1 No.
10. Mortar Pan	1 No.
11. Spade / Fowrah	1 No.
12. Rammer	1 No (In case of asphalted road this may not be provided)
13. Pick Axe	1 No (In case of asphalted road this may not be provided)
14. Tin case for flags	1 No.
15. Can for oil	1 No.
16. Water port / Bucket	1 No.
17. Canister for Muster Roll	1 No.

Items	<u>Quantity / Numbers</u>
18. Set of spare spectacles of gateman wearing glasses	1 No.
19. Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1 No.
20. Basket	1 No.
21. Whistle	1 No.
22. Wall Clock	1 No.
23. Small chain for locking arrangement	2 No.

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

1. Gate Working Instructions in Hindi / English.
2. Gate Working Instructions in local vernacular language.
3. Gateman Rule Book in local vernacular language
4. List for tools and books.
5. Duty Roster.
6. Certificate for working as gateman.
7. Bio-data particulars of Gatemen, including date of passing vision test, initial / refresher course, safety camp etc.
8. Accident Register.
9. Record of last census of road traffic at level crossing gate.
10. Public Complaint Book.
11. Inspection Book.

1.4 MODE OF OPERATION:

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 despatch. Gate man on duty shall ensure clearance of road traffic close and lock the gate. There after he will perform the following procedure to take off the Gate home signals as the case may be.

- a) Key 'G' extracted from the winch after closing level crossing gate releases gate lever No.1 GF.

Lever 1 GF thus reversed effects boom locking and releases key 'P1' from 1 GF. Key P1 extracted after boom locking, is to be inserted in RKT and turned.
- b) Key in contact of RKT along with the Reversal of GF levers will clear concerned signal as follows
- i) GF (3)S for UP Gate home Signal of L.C at KM 822/13-15 cum DN Gate Distant signal of L.C. at Km 821/9-11 for UP Main and is released by UP IBH Signal No 51 .of VZM RRI.

- ii) GF (2)S for DN Gate home Signal of L.C at KM 822/13-15 cum DN Gate Distant signal of L.C. at Km 821/9-11 for DN Main..
- iii) GF (5)S for UP Gate home Signal of L.C at KM 822/13-15 cum UP IB Distant Signal on Middle line...
- iv) GF (4)S for DN Gate home Signal of L.C at KM 822/13-15 cum DN Gate Distant signal of L.C. at Km 821/9-11 for Middle line.

1.5 DUTIES OF GATEMAN:

1. ALERTNESS:

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

2. POSITION DURING PASSAGE OF TRAINS:

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

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

3. ROUTING DUTIES OF GATEMAN:

- i) Gateman shall ensure that red flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.
- ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- iv) Except where otherwise prescribed under Special Instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.

- v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, and vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- vi) Gateman shall also prepared to repeat any signal which guard may give to Loco Pilot on walkie-talkie or in any other way.
- vii) If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- viii) Gateman shall report to the nearest Station Master, Gangmate or SSE(P-Way) any defect in his gate or apparatus pertaining to it, as soon as possible.
- ix) At the gate whose signal have become defective, the gateman shall close and lock the lifting barriers on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- x) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- xi) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- xii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- xiii) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- xiv) Gateman shall see that the channel for the flange of the wheel is kept clean.
- xv) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- xvi) Gateman on electrified section shall watch that road vehicles / animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- xviii) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

The gateman shall protect the line as under:-

a) On double line section:

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

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

1.6 **ENGINEERING ITEMS:**

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

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

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

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

ANNEXURE – I

**WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES
INTERLOCKED WITH GATE SIGNALS, PROVIDED WITH TELEPHONE WITH
NORMAL POSITION “OPEN TO ROAD TRAFFIC”**

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

1.0 MODE OF OPERATION:

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 despatch. Gate man on duty shall ensure clearance of road traffic close and lock the gate. There after he will perform the following procedure to take off the Gate home signals as the case may be.

- a) Key 'G' extracted from the winch after closing level crossing gate releases gate lever No.1 GF.

Lever 1 GF thus reversed effects boom locking and releases key 'P1' from 1 GF. Key P1 extracted after boom locking, is to be inserted in RKT and turned.

- b) Key in contact of RKT along with the Reversal of GF levers will clear concerned signal as follows
- i) GF (3)S for UP Gate home Signal of L.C at KM 822/13-15 cum DN Gate Distant signal of L.C. at Km 821/9-11 for UP Main and is released by UP IBH Signal No 51 .of VZM RRI.
 - ii) GF (2)S for DN Gate home Signal of L.C at KM 822/13-15 cum DN Gate Distant signal of L.C. at Km 821/9-11 for DN Main..
 - iii) GF (5)S for UP Gate home Signal of L.C at KM 822/13-15 cum UP IB Distant Signal on Middle line...
 - iv) GF (4)S for DN Gate home Signal of L.C at KM 822/13-15 cum DN Gate Distant signal of L.C. at Km 821/9-11 for Middle line.

2. Exchange of Private Numbers:

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

- iii) If the actual running time of the train from either end of the section is less than 10 minutes, Station Master will convey this advice to the gateman before obtaining / granting line clear.
- iv) It should be the duty of the gateman to ensure that the gate is closed in time, so that there is no detention to the train or excessive detention to road traffic.

3. Failure of Telephonic Communication:

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

- i) If the telephone falls at the gate connected with the station at the despatching end, Station Master shall issue a caution order to the Loco Pilot of the departing train.
- ii) Station Master shall advise the Loco Pilot to whistle continuously and proceed cautiously while approaching the gate.
- iii) In case the gate signal is ‘ON’ he should stop short of the gate signal and follow the procedure laid down under GR 3.73.
- iv) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- v) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- vi) Station Master will also advise the gateman through Gangman / Patrolman / Loco Pilot of the first train that the telephone has become defective.
- vii) Station Master should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- viii) Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection / fit memo for the same.

4. Failure of Lifting Barriers :

- i) When the gate cannot be closed due to failure of lifting barriers, the gateman shall immediately inform the Station Master on duty under exchange of private number, and ensure that lifting of barriers do not foul the track.
- ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.

- iii) Gateman shall secure that gate against road traffic by means of safety chains and padlocks.
- iv) After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light to the loco pilot of the approaching train.
- v) Station Master on duty shall issue caution order to the loco pilot of a departing train.
- vi) He shall also advise the Station Master at the dispatching end, under exchange of private number; to similarly issue a caution order to the Loco Pilot before despatching a train in the block section.
- vii) Station Master shall advise maintenance staff responsible for maintaining the lifting barrier to rectify the same at the earliest.
- viii) Normal working will be resumed only after maintenance staff repair the lifting barrier and issue reconnection / fit memo for the same.

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

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

- ix) After rectification, the Emergency key shall be replaced in the Emergency Key Box and resealed by the S&T maintainer.

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

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

7. Defective Gate Signals:

- i) The gateman shall treat the gate as defective and must not lower them under following circumstances:
 - a) If gate signals can be taken ‘OFF’ without closing the gate, or
 - b) The key can be extracted from the operation winch when the gate is in open condition, or
 - c) The key can be extracted from the gate barrier when the gate is in open condition

- ii) If the Gate or the Gate Signal or Warner / Distant Signal becomes defective in ‘OFF’ position, the gateman will make all efforts to put it at ‘ON’ position even by cutting signal wires, if necessary.
- iii) The gateman will immediately advise the Station Master on duty, under exchange of private number, regarding defective gate signals.
- iv) Thereafter, the gate must be treated as non-interlocked and procedure for reception / dispatch as prescribed for non-interlocked gates should be adopted.
- v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- vi) Station Master on duty will issue a caution order to the Loco Pilot of a departing train.
- vii) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching a train in the block section from his end.
- viii) Station Master shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- ix) Normal working will be resumed only after S&T staff rectify the defective gate signal and issue reconnection / fit memo for the same,

8. Obstruction at the Gate:

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

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

9. Obstruction on the Track near Level Crossing Gate:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No.8 above. If the obstruction fouls the Level Crossing Gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

APPENDIX –“B” TO STATION WORKING RULES OF VIZIANAGARAM STATION. DETAILS OF SIGNALING AND INTERLOCKING FOR WORKING THEM NORMALLY AND IN EMERGENCY ETC. INCLUDING THE POWER SUPPLY ARRANGEMENT.

- 1.1** a) The power signaling and interlocked installations is as per the signaling plan No.SI- 11188 Alt.“C” together with control tables, route section plans and wiring diagrams.
Based on the above signaling plan the Station Working Rules diagram attached to the Station Working Rule shows the following.
The complete layout of the Station including the non-interlocked lines and sidings within the station limits. In addition to signaling features the diagram indicates gradients, holding capacity of all individual lines, the position and number of lines, over run lines, special restrictions, track circuits, ground frames, cabins, goomties aspect control of signals and inter yard telecommunication facilities.
- b) In this installation where the points are power operated, the point remains in the last operated position. If the position of the points required to be changed, it shall be resorted individually by operating the concerned point button [WN] in conjunction with Point Group Button [WWN] to required position.
- c) Charts given in the Appendix-“B” showing the operation of entrance and exit buttons for various routes governed by stop signals, calling on signals and shunt signals slots, the designation of various signals etc.
- d) The Station is of Standard-I(R) interlocking, equipped with Manually operated Multi Aspect Colour Light Signals and power operated points with track circuit control over points and berthing tracks etc., centrally controlled from Route Relay Cabin through Metal to Metal relay Type Route Relay installation based on the principles of entrance and exit to confirm to signaling and interlocking plan No.SI-11188 Alt.E.
- 1.2** Route Relay Cabin controls the movements of trains from and to NML, KUK and GTLM, Stations.
- 2.0 DOMINO TYPE PANELS – OPERATING AND INDICATING FOR OPERATION OF THE POWER SIGNALING:-**

Two panels viz. Operating (control) panel and indication panel are installed in the RRI Cabin Vizianagaram

2.1 OPERATING (CONTROL) PANEL:-

The operating (control) panel is a small console, provided with various operating push buttons for signals, points, individual route section release, emergency operations and other miscellaneous buttons on a small layout to accordance with the geographical position at site. Special illuminated indicator indicating power failures is provided on this panel. All the controlling push buttons are provided with indicating and designation, number showing the corresponding number of the signal

or route or points or any other field units as per the signaling and interlocking plan. The panel Station Master while operating the controlling buttons, switches, counters etc., on the operating panel for controlling the traffic movements or any other operation connected with power signalling installations in the yard should at the same time monitor the conditions of the traffic movements, condition of lines, position of the Block Instruments and condition of all other units on the indication panels.

2.2 INDICATION PANEL:-

The indication panel shows in a domino form interlocked portion of Vizianagaram station yard with connection to the ancillary yards together with the geographical correlation to the tracks, points, signals and various other controls as existing at site. This panel through various illuminating indications is provided for the field functions, indicates the condition of a particular field gear at a given time in a miniature form so that the entire traffic operation in the yard as well as the position of power signalling and interlocking installations may be constantly monitored by the panel Station Master. Each track circuited line on the indication panel is represented by a separate and distinct colour on the face of the panel and is illuminated indicating the conditions of route setting, route release, track clearance and occupancy of the track etc. Non-track circuited lines are shown in black colour for maintaining visual contact but they are not illuminated.

2.3 POSITIONING OF CONTROLLING BUTTONS ON THE OPERATING PANEL:

The field function controlling buttons of points, signals, routes, slots etc., are located close to the position where the field function are represented on the operation panel. The common buttons such as emergency cancellation button, common point buttons and various counter (meant for counting emergency operations), signal power supply control buttons, signal and point intensity control buttons, are all housed on the top of the panel.. in order to avoid the difficulty of the operator in reaching two buttons “for any operation”, some common buttons are multiplied on the operation panel at convenient places.

2.4 CRANK HANDLE RELEASE PUSH BUTTON :-

To release any Crank Handle accessibility key at location box concerned Crank Handle control button & Crank Handle group release button [CHRB] to be pressed simultaneously. Then a steady White light near the Crank Handle button starts flashing till such time the control released accepted by the field agency. At site Red indication appears when the key is extracted from key lever unit a flashing Red indication will appear on the Panel and white light extinguishes. After completing the work when the key is inserted and turned in the key lock unit the flashing Red light become steady and the white light starts flashing. After seeing the indication SM/Panel Operator with draw the control by operating the concerned CH button in conjunction with group Crank Handle Normal Button [CHNB].

2.5 LAMP MUTING PUSH BUTTON :-

Whenever any signal lamp is fused, a flashing indication appears on the panel in the concerned signal aspect with a buzzer. To stop the buzzer this button is to be operated.

INDICATIONS:

- a) A white indication is provided on the panel to indicate closing of the level crossing gate.
- b) The level crossing key is electrically interlocked with the panel. The key extracted from the winch after closing the level crossing when inserted in the RKT for “key in contact” release the concerned signals.
- c) The track circuits are indicated on the panel with “WHITE” for clear and “RED” for occupation.
- d) Point indicators are provided for “Reverse” and “Normal” position of the points. A point failure indication is also provided with Flashing light.
- e) In case of failure of Motor operated points, the procedure detailed in rule No.20.06 of Operating Manual, should be followed for setting of the points by Crank Handle.

2.6 SIGNALS AND THEIR INDICATIONS :-

- a) Manually operated multiple aspect colour light signals are provided at this RRI installation. The indications of various aspects of signals provided in this yard are as follows:-
 - i) Red:-
Red indicates “Danger” aspect and signifies stop dead till the signal is taken off.
 - ii) Single Yellow:-
Single Yellow indicates “Caution” aspect and signifies proceed cautiously preparing to stop dead at the next stop signal.
 - iii) Double Yellow:-
Double Yellow indicates “Attention” aspect and signifies proceed and prepared to pass the next signal at a restricted speed.
 - iv) Green:-
Green indicates “Clear” aspect and signifies “Proceed”.

b) Route indicators:-

It takes the form of a row of a lunar white lights above the signals at junction points at various degrees from the vertical to the left or right as the case may be to indicate whether the turn out at the junction points is set to the right or to the left side of the driver. In case of more than one such arm of route indicator on the same side, the top most reads to the first loop and the others for subsequent loops in regular order of sequence.

3.0 a) LIST OF COUNTERS WITH THEIR CODE AND FUNCTION:-

Any emergency operations such as full route release, sub-route release, emergency overlap release, emergency point operation etc., are registered in respective counters which are fixed on the top of the panel adjacent to the concerned emergency operation button. The following counters are provided.

S.No	Description	Code	Remarks
1.	Emergency full-route release counter.	EUUYZ	The three button cancellation of any route which is registered in this counter.
2.	Emergency sub-route release counter.	EUYZ	Individual sub-route release in case of failure is registered in this counter.
3.	Emergency overlap release counter.	OYZ	Emergency release of any over lap in case of any failure is registered in this counter.
4.	Emergency point operation counter.	EWZ	Emergency operation of points under track circuit failure operation is registered in this counter.
5.	Calling on signal counter.	COGGZ	Whenever a calling on signal is cleared the operation is registered in this counter.
6	Permission received/granted counter[IB-NML-VZM]		For resetting of IB between NML-VZM during permission received are granted registers in this counter
7	Permission received/granted counter[IB-VZM-KUK]		For resetting of IB between VZM-KUK during permission received are granted registers in this counter
8	Reset counter DN IB VZM-NML		To register the resetting activity of DN IBS between VZM-NML
9	Reset counter UP IB VZM-KUK		To register the resetting activity of UP IBS between VZM-KUK
10	Permission granting counter DN LV between VZM-NML		To register the permission granting for resetting of DN-LV between VZM-NML

S.No	Description	Code	Remarks
11	Permission granting counter UP LV between VZM-KUK		To register the permission granting for resetting of UP-LV between VZM-KUK
12	Permission granting counter DN LV between VZM-GTLM		To register the permission granting for resetting of DN-LV between VZM-GTLM
13	UP LV reset counter of section GTLM-VZM		To register reset activities of UP LV between section GTLM-VZM
14	DN LV reset counter of section KUK-VZM		To register reset activities of DNUP LV between section KUK-VZM
15	UP LV reset counter of section NML-VZM		To register reset activities of UP LV between section NML-VZM
16	Reset counter for 1-AXT		To register the reset activities of 1-AXT zone
17	Reset counter for 2-AXT		To register the reset activities of 2-AXT zone
18	Reset counter for 3-AXT		To register the reset activities of 3-AXT zone
19	Reset counter for 4-AXT		To register the reset activities of 4-AXT zone
20	Reset counter for 5-AXT		To register the reset activities of 5-AXT zone

b) LIST OF OPERATING BUTTONS WITH THEIR CODE AND COLOUR:-

The operating button are distinctly coloured for easy identification. The following is the list of the important button with their designations in codes and colours.

S/N	Description	Code	Colour	Remarks
1.	Main signal button.	S.1 GN	Red	No.1 indicate signal number.
2.	Shunt signal button.	Sh.3 GN	Yellow	3 Indicates shunt signal number.
3.	Route button.	34 UN	Grey	34 indicates route number.
4.	Buttons for panel intensity control.	Ind. Lamp 1,2,3	White	Three such buttons are provided.
5.	Points button without route section emergency release facility.	101 WN	Blue	No.101 indicates the point number.

S/N	Description	Code	Colour	Remarks
6.	Points button without route section (emergency) release facility.	103 WN	Blue with a white dot	103 indicates the number of points.
7.	Emergence full route release button (group).	EUUYN	Grey	Duplicated for easy access.
8.	Emergency route section release button (individual).	EUYN	Grey	Duplicated for easy access.
9.	Common push button for points.	WWN	Blue	Duplicated for easy access.
10.	Point emergency push button.	EWN	Blue	Duplicated for easy access.
11.	Button for silencing buzzer for signals.	GXYN	White	
12.	Button for silencing buzzer for point.	WXYZ	White	
13.	Emergency group button for putting back signal to 'ON' position.	EGGN	Red	Duplicated for easy access.
14.	Calling on signal group button.	COGGN	Greasy	For taking off a calling on signal this button is pressed along with the concerned signal button.
15.	Group slot cancellation button.	GSRB	Green.	
16.	Emergency overlap release button.	OYN	Grey	Duplicated for easy access.
17.	Crank handle group button.	CH 4	Blue	CH 4 indicates crank handle No.4.
18.	Group crank handle release button .	CHRB	Blue	Duplicated for easy reach. These buttons are pressed along with the individual crank handle group button for releasing the crank handle and subsequent normalization.
19.	Group crank handle normal button.	CHRB	Blue	
20.	Siding point control button.	C129	Green	C 129 means control 166. This button is to be pressed along with GSB/GSRB.
21.	Power failure alarm suppression.	XYN	White	Button to be pressed to mute alarm bell due to power failure.
22.	Last vehicle verification key release button.	LVVYN	Grey	This button is to be pressed along with GSB/GSRB in case of manual verification of last vehicle indicator during failure of Axle counter.

The sequences/ of button operations to be made for different operations on the panel is as under:

S.No	Operation	Button used	Sequence of operation.
1.	To clear a calling on signal.	GN & UN EGGN COGGN	First initiate the stop signal route by pressing GN & UN simultaneously, then press GN and EGGN to throw back the stop signal to “ON” [whether it is cleared or not] and then press GN & COGGN simultaneously, release COGGN keeping GN pressed and press UN.
2.	To clear a main signal.	GN & UN	Press both buttons simultaneously.
3.	To clear shunt signal.	Sh.GN & UN	Press both buttons simultaneously.
4.	To throw cleared signal to danger whether a stop signal or a calling on signal or a shunt signal.	GN & EGGN	Press the concerned GN and EGGN simultaneously.
5.	To cancel a route already set after replacing the cleared signal “ON” [whether it is a stop signal or calling on signal or a shunt signal.	GN, EUUYN & UN.	Press the GN & EUUYN simultaneously, release EUUYN keeping GN pressed and press UN. This is known as three button cancellation.

NOTE: When the signal is approach locked or dead approach locked on pressing GN & EUUYN, a flashing dot indication below the concerned signal configuration appears. Wait till it becomes steady and then press GN & EUUYN, release EUUYN keeping GN pressed and press UN.

6.	To release individual route section under emergency.	WN & EUYN	The key under the custody of SSE/Sig, SE/Sig,/RRI to be inserted and turned to “ON” position. Then WN and EUYN buttons are to be pressed simultaneously for emergency sub-route release.
7.	Individual operation of points, tracks are clear.	WN & W W N.	Press the point's button concerned and common points button together.

8.	Individual operation of points, when points tracks fail.	WN & E W N	Break open the seal of EWN key box, insert & turn the key and press both the buttons simultaneously. This operation by panel Station Master is registered in the EWN Counter.
9.	To release a locked over lap in case of failure.	UN & OYN	The key under custody of the SEE/Sig, SE/Sig,/RRI is to be inserted and turned to “ON” position. Then “UN” and “OYN” buttons to be pressed simultaneously for emergency over – lap release.
10.	To change the position of points after arrival of train.	WN WWN	Concerned Point Button [WN] and Group Point Button [WWN] to be pressed.

4.0 **SPECIAL AND IMPORTANT NOTES:-**

- a) It is essential that only two push buttons concerned are pressed positively with deliberation and the buttons should be kept pressed for three to eight seconds. [as necessary].
- b) In order to avoid failure of any operation, when the two buttons concerned are pressed it is essential that no other button is pressed.
- c) Whenever bi-directional movement are permitted over a berthing track, two buttons viz., one route button for movement in Down direction and one for UP direction are provided.
- d) The locking on the points giving flank protection cannot be released by cancellation of the individual route section with in which these points are located but by release of the individual route section which had commanded such flank protection/isolation.

In the power signalling installations, generally the complete route of a stop signal comprises of the route between the concerned signal ahead and also the adequate distance[signal over lap]. The complete route of shunt signal or a calling on signal comprises of the route between the subject signal and signal ahead.

Normally the portion of the track between two consecutive stop signals or between two consecutive shunt signals or between a shunt signal and the stop signal ahead

termed as full route is made up of several individual route sections each route section controlling the various field elements like track circuits, points, level crossing gates, flank protection etc., not only in its immediate jurisdiction but also within its ambit of control. The signal over lap locking / setting is released in an emergency operation through the berthing track control.

Normally each route section is designated after the most pre-eminent number of the points that fall within the immediate jurisdiction of the individual route section, so the numbers of the point button and individual route section are the same. Therefore the common point button coloured blue with a white dot on the top [along with the concerned group push button] should be operated either for individual operation of points in the route section or for the release of individual route section in case of failures etc., under special emergency provisions.

In some cases, however, where there are more than one set of points or cross-over in a particular individual route section, the route section is designated generally after the number of the pre-eminent set of points or cross-overs in that part of the route section zone.

In all such cases the individual operation of the points and the release of the individual route section occur / with the operation of the common button [which is coloured blue with white dots]. The operation of all other individual points or cross-overs in that route section zone is dependent on the individual operation of the concerned point button [which are coloured blue without any white dot] together with the group button provided such an operation is only possible when the controlling route section is not engaged. This is applicable in the following cases:-

Point button without white dot.

1. 108 Section/Sections being free.
2. 106 Section/Sections being free.
3. 117A Section/Sections being free.
4. 122 Section/Sections being free.
5. 126B Section/Sections being free
6. 127 Section/Sections being free
7. 134B Section/Sections being free
8. 137 Section/Sections being free
9. 139A Section/Sections being free
10. 140 Section/Sections being free
11. 155 Section/Sections being free

In addition to the provision of the buttons on the operating panel for initiating a route setting and taking off a signal certain other illuminated white or coloured light indications and buttons as below are provided on the operation and indication panels to enable the panel Station Master to constantly watch the condition or state of various field gears and to control the traffic movements in a direct and expeditious manner:-

5.0 INDICATIONS:-

These indications exhibited on the operation panel to indicate the condition or state of controls in any given line of field gears, ground frames, goomties, satellite cabin siding controls and shunting free indicator controls. These controls released by the Panel Station Master for controlling:-

- i) Rotary key Transmission unit for siding operations.
- ii) Crank Handle Transmission control for emergency motor point crank handle control keys are clubbed into one group and the following are the indications exhibited on the operation.
 - a) A white steady light indication is normal condition on the control Panel i.e., Crank Handle not released.
 - b) Whenever a control is released from the RRI cabin to the field agencies, a flashing white light will appear till such time the said control release is accepted by the concerned field agencies and as the control is accepted at the field site a flashing Red light appears.
 - c) A steady Red light and a white flashing appears when the field work is completed and controls returned by the field agencies.
 - d) After the Panel Station Master withdraws his control or release by operating the appropriate buttons a white steady light appears again.

6.0 ELECTRIC POWER SUPPLY INDICATIONS:-

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

- i) Normal supply from APSEB supply 3 Phase 400V – 50HZ
- iii) Stand – by supply-2 ATs from 50KVA Traction supply through Auxiliary Transformers – single phase 220V – 50HZ.
- iii) Stand by supply – 2 Nos of Diesel Generator power supply – 3 phase 400V – 50HZ 30KVA..

The availability of the power supply is indicated by a stencil indicator “M1” on the operating panel when the normal supply fails, the traction supply is automatically switched on and stencil indicator “M2” appears.

In the event of failure of power supply from both the Cabin Station Master on duty should immediately advise his staff to start the D/Generator provided in the D/Generator Room in the RRI compound. After the D/Generator is started the Station Master on duty should put “ON” the Main Switch provided in the Panel Room. Then the D/Generator supply will be extended to panel. The indication “M3” lits on the panel. When the normal power supply or standby power supply is restored the same will be switched over automatically.

Whenever power is switched to standby supply a buzzer / indication appears. This should be acknowledged by the panel operator by pressing the Acknowledgement button and then put off the main switch and stop the D/Generator. The Station Master should intimate the Traction Power Controller and the Section Controller to arrange for early repairs.

- 6.1 There are Two traction supplies [UP AT and DN AT] provided in the IBS goomties for IBS signalling and interlocking with auto change over unit IPS is provide in IB goomty . Normally power supply will be UP AT or DN AT. In case of failure of any of the above supplies automatically it will change to other available AT supply through change over unit. In case of failure of both the AT supplies adjacent Station SS should immediately inform to the section controller concerned and electrical staff and S&T maintenance staff .

7.0 **INTENSITY OF PANEL LIGHT INDICATORS:-**

These indicators provided at operation panel along side the panel illumination intensity control button 1,2, & 3, show the accordance of the illumination brightness of the panel lights with the controlling buttons Nos.1,2, & 3. Only one button can be operated at a time.

8.0 **TRACK INDICATORS:-**

Each track circuit is given a separate and distinguishable colour on the face of the indication panel and entire length of the track circuited portion of the track provided with recti-liner transparent filters and illuminated from behind to indicate the conditions of track circuited lines at any given movement [whether engaged and route set or occupied]. When once a route is set by pressing the entrance and exit buttons for signaled route. For the purpose of giving indications to the Panel Station Master about the occupancy of any or all of the track circuited section/sections, the route is split into four portions and the details of the four portions are as follows:-

- i) Approach track either in rear of the first stop signal or any other stop signal in the station yard.
- ii) Entry portion of a route from the subject signal upto the fouling mark of the berthing track.
- iii) The berthing track and
- iv) The over lap [where provided].

In the first part of the route, whenever a vehicle or train occupies the approach track in rear of the first stop signal at the station, the concerned approach track indications show a RED flashing light with the an audible buzzer ringing and this will continue till the Panel Station Master takes off the Home Signal. The approach track of a stop signal [other than the first stop signal] is normally lit WHITE when a route is set for a train movement leading to the above stop signal and this white strip of indication of the track [throughout the route

section and berthing tracks en-route] change to RED one after the other progressively in the direction of the train movement as the train passes and finally the RED light extinguishes when the vehicle or train clears these various portions of the track circuits on the route.

In the second part of the route whenever a train is occupying the track circuited section i.e., at the entrance end at the track circuit indication shows RED light [changing from WHITE to RED] and as soon as a train or vehicle has cleared this portion of the route section/track circuited portion of the line, the RED light extinguishes on this portion of the track. This sequence of operation of track indications signify the sectional route release for facilitating subsequent traffic movements.

In the third part of the route, whenever a train is on the berthing track, it continues to show the RED light [changing from white to red] till berthing track is cleared of this train or vehicle.

In the fourth part of the route the over lap will continue to show WHITE light for period of 120 seconds after the berthing track is occupied by the train and when these lights extinguish, it shows the release of the over lap control [because by the time a train would have either come to a stop at the stop signal protecting the over lap or has passed past it]. The over lap WHITE light indication originally showing WHITE light at the time of route setting will change to RED if the over lap portion of the track circuit is occupied by the train.

In all the four parts of complete route the failure or occupation of any track circuit is indicated by a RED light.

POINT ENGAGED INDICATION:-

At the apex of points, a small circular dot indicator is provided on the panel on the track portion itself. This indicator lights up whenever the point is locked in a particular position indicating that it is engaged. [Constituting either a part of the route section or an over lap set].

9.0 POINT INDICATION:-

At each point the Normal and Reverse indications of point positions are shown by a small strip light on the straight for the normal setting and on the cross over portion i.e., diagonally for the Reverse setting.

10. APPROACH TRAIN INDICATION:-

At the approach of Vizianagaram Station yard approach track indications are provided which shall show RED lights as soon as the train occupies the track in rear of the Home Signals from respective directions.

11.0 APPROACH LOCKING INDICATIONS:-

Approach locking indications are provided at all signals on the indication panel [other than those signals which have no points or level crossing gates etc., on their routes].

The expression Approach locking connotes that the locking is effective on a signal route when once the concerned signal is taken off and the train has come within a predetermined distance from that signal. For signals which do not have approach track circuit in rear, dead approach locking connotes that the locking is effective on the signal when once the signal is taken off.

In case it is necessary to cancel a signal that was once taken off three button emergency operation cancellation should be resorted to. Whenever there is no train on the approach track the three button cancellation should be operated straight-away and at once. This operation is counted on the Veeder Counter.

But when there is a train at the approach locked indication [shown with a WHITE DOT light] flashes the moment the signal is put back to “ON” position and the cancellations is indicated. Then the route can be cancelled with the three button operations. This operation is also counted on Veeder Counter.

12. BLOCK RELEASE INDICATION:-

There are three indications [white] provided on the operating panel:

- a) Down Block release KUK-VZM.
- b) Down Block release GTLM-VZM.
- c) UP Block release NML-VZM.

Whenever Down train clears Block section KUK-VZM/GTLM-VZM or UP Train clears Block section NML-VZM arrives at VZM a white light lits at Down Block release section KUK-VZM/GTLM UP Block release section NML-VZM which indicates that the Block section is clear.

12.1 BUTTON STUCK UP INDICATION:-

When any of the Signal Buttons/Point Buttons or Route Buttons [GNCR, WNCR, UNCR] is remains in the pressed position for more than 15 seconds, the Panel becomes inoperative and white light appears on the Panel with a audible indication [Buzzer].

If Signal Button [GN] remains in pressed position a white light appears near GNCR or if a point Button [WN] remains in pressed position a white light appears near UNCR. The visible audible indication will continue till such time the fault is rectified.

12.2 AUDIBLE INDICATIONS ON OPERATING PANEL:-**a) SIGNAL FAILURE BUZZER:-**

Whenever a signal becomes blank due to fusing of RED lamp the signal failure buzzer/sounds and continues till the buzzer muting button viz., XYN [S] on the panel is pressed for acknowledging the failure. A stencil “G” indication also appears and continues till the lamp is replaced.

b) POINT FAILURE BUZZER:

In case of failure of a point this buzzers/sounds and continue till the buzzer muting button viz., WXYN is pressed for acknowledging the failure. A stencil “W” indication also appears and continues till the defect is rectified.

c) GROUP BUTTON BUZZER:

When one or more of the operating button/buttons remains/remain in the pressed down position for more than 15 seconds this buzzer continue to buzz until the fault is rectified and all the buttons are put at normal position, the panel remains inoperative. So, it should be ensured by Panel Station Master that no operating button is pressed for more than 15 seconds.

d) POINT CHAIN GROUP BELL:

In case of any failure of power operation of points through the chain group, this bell rings until it is acknowledged by pressing of the button below P/indicator. However, the flashing indicator “P” continues till the defect is rectified.

13.0 SIGNAL SYMBOLS AND THEIR INDICATION ON INDICATION PANEL:

Main Signals are symbolically represented by a small rectangular box with a stem [in black painted over the indicating panel] along the track lines corresponding to their position at site with provision of exhibiting two aspect viz., a steady Red light when the signals at the site shows a red aspect and a steady Green light when the signal at the site displays any aspect/aspects other than Red.

Junction stencil indicators on the stop signals are indicated in a box at the top of the stop signal symbolically and provision for indicating a WHITE light in a slit whenever any junction/signal indicator of the signal concerned at the site lit.

In case of a shunt signal below a stop signal, the aspect of the same is shown in a hexagonal box [coloured Black] with an aperture. When the shunt signal is taken off it displays a WHITE light on a diagonal slit and no light when the signal is at “ON” position.

In case of a Calling on signal it display a WHITE DOT light on the stem with a circular box [coloured black] and no light when the signal is at “ON” position.

14.0 SPECIAL INSTRUCTIONS REGARDING SIGNAL LAMPS:

At this station, Triple pole lamps with two filaments viz. Main and Auxiliary are provided for all main signals. In triple pole lamp of signal, if the Main filament is fused, Auxiliary filament will lit automatically. However a Buzzer will ring and an indication will appear on the indication panel when one of the main filament of the signal lamps controlled by VZM RRI cabin fuses. The Station Master on duty on panel has to press the ACK [Acknowledgement] button provided on the operating panel for stopping the Buzzer. However indication will continue until the fused lamp is replaced. Such indicators are provided at VZM RRI cabin for Up & Dn. Distant of Main Line Up distant of RV Line, Homes/Routing Homes /Starters, Advance starters. The station master on duty shall inform the incidence of fusing of the signal lamp main filament at RRI cabin to S&T maintenance staff ESM/SE(signal) to attend the above Reporting the fusing of main filament of signal lamp should be promptly done by the station master on duty so that signal lamp is replaced by S&T staff in time before Auxiliary filament also fuses which will other wise result detention of trains .The station master On duty at 0.00 hours also ensure that all the signal light are burning properly. This fact must be recorded in the diary under a separate entry and confirm to the section controller on duty as per the instructions contained in Division safety circular No 82/82 .Dated 03.05.1982.

15.0 INDICATIONS IN CASE OF FAILURE OF SIGNAL ASPECT

In case if any aspect of the lamp fuses at the site the green indication flashes on the corresponding signal aspect indication on the indication panel. If the red lamp fuses the Red indication on the corresponding signal symbol flashes.

Magnetic button collars are provided and the same should be used on the operating panel on the concerned lines /points when the same are engaged /blocked as a visual reminders in accordance with SR 5.04.01

16.0 FAILURE OF POWER SUPPLY INDICATIONS:

The failure of power supply to the Route Relay installations is indicated by audio and visual indicators on the operating panel

CHART SHOWING THE OPERATION OF THE ENTRANCE AND EXIT BUTTONS FOR CLEARING STOP SIGNAL/CALLING ON SIGNALS.

The push button chart for initiating stop signals and calling on signals.

Sl. No	Signal route	From signal	To destination	Buttons operated		Remarks
				Signal	Route	
1	S- 1[A] [set to sand hump	S -1	S -23	S-1	L-1, UN-1	
2	S-1 [A] [Set to main Line	S-1	S-23	S-1	L-1, UN	

Sl. No	Signal route	From signal	To destination	Buttons operated		Remarks
				Signal	Route	
3	S-1 [B][Set to sand hump]	S-1	S-25	S-1	L-2, UN-1	
4	S-1 B[Set to Main Line]	S-1	S-25	S-1	L-2, UN	
5	S-1 [C]	S-1	S-27	S-1	L-3, UN	
6	S-1 [D]	S-1	S-5	S-1	5, UN	
7	S-1 [D]	S-1	S-5	S-1	5/1 UN	
8	S-1 [E]	S-1	S-7	S-1	7 UN	
9	S-1 [E]	S-1	S-7	S-1	7/1 UN	
10	S-1[E]	S-1	S-7	S-1	7/2 UN	
11	C 1 [A] [Set to sand hump]	C-1	S-23	S-1+ EGGN S-1 +COGGN	L-1 UN.1	
12	C-1 [A] [Set to main Line]	C-1	S-23	S-1+ EGGN S-1+ COGGN	L-1, UN	
13	C-1 [B][Set to sand hump]	C1	S-25	S-1+ EGGN S-1+ COGGN	L-2, UN-1	
14	C-1 [B][Set to Main Line]	C-1	S-25	S-1+ EGGN S-1+ COGGN	L-2, UN	
15	C-1[C]	C-1	S-27	S-1+ EGGN S-1+ COGGN	L-3, UN	
16	C-1[D]	C-1	S-5	S-1+ EGGN S-1+ COGGN	5 UN	
17	C-1 [D]	C-1	S-5	S-1+ EGGN S-1+ COGGN	5/1, UN	
18	C-1 [E]	C-1	S-7	S-1+ EGGN S-1+ COGGN	7 UN	
19	C-1 [E]	C-1	S-7	S-1+ EGGN S-1+ COGGN	7/1 UN	
20	C-1 [E]	C-1	S-7	S-1+ EGGN S-1+ COGGN	7/2 UN	
21				Space		
22	S-2[E]	S-2	S-24	S-2	L-1, UN	
23	S-2 [D]	S-2	S-26	S-2	L-4, UN-1	
24	S-2 [D]	S-2	S-26	S-2	L-4, UN	
25	S-2 [C]	S-2	S-30	S-2	L-5, UN	
26	S-2 [B]	S-2	S-14	S-2	14/1 UN	
27	S-2 [B]	S-2	S-14	S-2	14 UN	
28	S-2 [A]	S-2	S-12	S-2	12/1 UN	
29	S-2 [A]	S-2	S-12	S-2	12 UN	
30	S-2[A]	S-2	S-12	S-2	12/2 UN	

Sl. No	Signal route	From signal	To destination	Buttons operated		Remarks
				Signal	Route	
31				Space		
32	C-2 [E]	C-2	S-24	S-2 +EGGN S-2+COGGN	L-1, UN	
33	C-2 [D]	C-2	S-26	S-2 +EGGN S-2+COGGN	L-4, UN 1	
34	C-2[D]	C-2	S-26	S-2 +EGGN S-2+COGGN	L-4, UN	
35	C-2 [C]	C-2	S-30	S-2 +EGGN S-2+COGGN	L-5,UN	
36	C-2 [B]	C-2	S-14	S-2 +EGGN S-2+COGGN	14/1 UN	
37	C-2 [B]	C-2	S-14	S-2 +EGGN S-2+COGGN	14 UN	
38	C-2 [A]	C-2	S-12	S-2 +EGGN S-2+COGGN	12/1 UN	
39	C-2[A]	C-2	S-12	S-2 +EGGN S-2+COGGN	12 UN	
40	C-2-[A]	C-2	S-12	S-2 +EGGN S-2+COGGN	12/2 UN	
41	S-12 [A]	S-12	S-40	S-12	L-9, UN 1	
42	S-12 [A]	S-12	S 40	S-12	L.9 UN	
43	S-12 [B]	S-12	S-38	S-12	L-8 UN	
44	S-12 [C]	S-12	S-14	S-12	14 UN	
45	S-12[C]	S-12	S .14	S-12	14/1 UN	
46	C-12[A]	C-12	S-40	S-12 +EGGN S-12+COGGN	L-9, UN 1	
47	C-12 [A]	C.12	S-40	S-12 +EGGN S-12+COGGN	L-9 UN	
48	C-12 [B]	C-12	S-38	S-12 +EGGN S-12+COGGN	L-8 UN	
49	C-12 [C]	C-12	S-14	S-12 +EGGN S-12+COGGN	14 UN	
50	C-12 [C]	C-12	S-14	S-12 +EGGN S-12+COGGN	14/1 UN	
51	S-14 [A]	S-14	S-36	S-14	L-7 UN	
52	S-14 [B]	S-14	S-34	S-14	L-6 UN	
53	C-14 [A]	C-14	S-36	S-14 + EGGN S-14+COGGN	L-7 UN	
54	C-14 [B]	C-14	S-34	S-14 + EGGN S-14+COGGN	L-6 UN	
55	S-22[A]	S-22	S-52	S-22	52 UN	

Sl. No	Signal route	From signal	To destination	Buttons operated		Remarks
				Signal	Route	
56	S-22[B]	S-22	S-48	S-22	48 UN	
57	C-22[A]	C-22	S-52	S-22 + EGGN S-22+COGGN	52 UN	
58	C-22[B]	C-22	S-48	S-22 + EGGN S-22+COGGN	48 UN	
59	S-24[A]	S-24	S-52	S-24	52 UN	
60	S-24[B]	S-24	S-48	S-24	48 UN	
61	C-24[A]	C-24	S-52	S-24 +EGGN S-24+COGGN	52 UN	
62	C-24[B]	C-24	S-48	S-24 +EGGN S-24+COGGN	48 UN	
63	S-26 [A]	S-26	S-52	S-26	52 UN	
64	S-26 [B]	S-26	S-48	S-26	48 UN	
65	C-26[A]	C-26	S-52	S-26 + EGGN S-26+COGGN	52 UN	
66	C-26[B]	C-26	S-48	S-26 + EGGN S-26+COGGN	48 UN	
67	S-30[1]	S-30	S-44	S-30	44 UN	
68	C-30[1]	C-30	S-44	S-30+COGGN	44 UN	
69	S-30[2]	S-30	S-44	S-30	44/1 UN	
70	C-30[2]	C-30	S-44	S-30 +EGGN S-30+COGGN	44/1 UN	
71	S-34	S-34	S-44	S-34	44 UN	
72	S-34	S-34	S-44	S-43	44/1 UN	
73	C-34	C-34	S-44	S-34 +EGGN S-34+COGGN	44 UN	
74	C-34	C-34	S-44	S-34 +EGGN S-34+COGGN	44/1 UN	
75	S-36	S-36	S-44	S-36	44 UN	
76	S-36	S-36	S-44	S-36	44/1 UN	
77	C-36	C-36	S-44	S-36 + EGGN S-36+COGGN	44 UN	
78	C-36	C-36	S-44	S-36 + EGGN S-36+COGGN	44/1 UN	
79	S-38	S-38	S-44	S-38	44 UN	
80	S-38	S-38	S-44	S-38	44/1 UN	
81	C-38	C-38	S-44	S-38 + EGGN S-38+COGGN	44 UN	
82	C-38	C-38	S-44	S-38 + EGGN S-38+COGGN	44/1 UN	
83	S-40[A]	S-40	S-52	S-40	52 UN	
84	S-40[B]	S-40	S-44	S-40	44/1 UN	
85	C-40[A]	C-40	S-52	S-40 +EGGN S-40+COGGN	52 UN	

Sl. No	Signal route	From signal	To destination	Buttons operated		Remarks
				Signal	Route	
86	C-40[B]	C-40	S-44	S-40 +EGGN S-40+COGGN	44/1 UN	
87	S- 44[A]	S-44	S-52	S-44	52 UN	
88	S-44[B]	S-44	S-48	S-44	48 UN	
89	C- 44[A]	C-44	S-52	S-44 +EGGN S-44+COGGN	52 UN	
90	C-44[B]	C-44	S-48	S-44 +EGGN S-44+COGGN	48 UN	
91	S-48	S-48	S-50	S-48	D/M UN	
92	S-49	S-49	S-51	S-49	U/M UN	
93	S-52	S-52	DN H/S OF GTLM	S-52	D/M UN	
94	S-23	S-23	S-49	S-23	49 UN	
95	C-23	C-23	S-49	S-23 +EGGN S-23+COGGN	49 UN	
96	S-25	S-25	S-49	S-25	49 UN	
97	C-25	C-25	S-49	S-25 + EGGN S-25+COGGN	49 UN	
98	S-27	S-27	S-49	S-27	49 UN	
99	C-27	C-27	S-49	S-27 +EGGN S-27+COGGN	49 UN	
100	S-31	S-31	S-49	S-31	49 UN	
101	C-31	C-31	S-49	S-31 +EGGN S-31+COGGN	49 UN	
102	S-35	S-35	S-49	S-35	49 UN	
103	C-35	C-35	S-49	S-35 +EGGN S-35+COGGN	49 UN	
104	S-37	S-37	S-49	S-37	49 UN	
105	C-37	C-37	S-49	S-37 +EGGN S-37+COGGN	49 UN	
106	S-39	S-39	S-49	S-39	49 UN	
107	C-39	C-39	S-49	S-39 +EGGN S-39+COGGN	49 UN	
108	S-41	S-41	S-49	S-41	49 UN	
109	C-41	C-41	S-49	S-41 +EGGN S-41+COGGN	49 UN	
110	S-5[A]	S-5	S-31	S-5	L5 UN	
111	S-5[B]	S-5	S-35	S-5	L6 UN	
112	C-5[A]	C-5	S-31	S-5 +EGGN S-5+COGGN	L.5 UN	
113	C-5[B]	C-5	S-35	S-5 +EGGN S-5+COGGN	L6 UN	

Sl. No	Signal route	From signal	To destination	Buttons operated		Remarks
				Signal	Route	
114	S-9[A] Set to Sand Hump	S-9	S-23	S-9	L 1 UN-1	
115	S-9[A] Set to Main line	S-9	S-23	S-9	L 1 UN	
116	S-9[B]Set to Sand hump	S-9	S-25	S-9	L2 UN-1	
117	S-9[B] Set to Main line	S-9	S-25	S-9	L 2 UN	
118	S-9[C]	S-9	S-27	S-9	L3 UN	
119	S-9[D]	S-9	S-5	S-9	5 UN	
120	S-9[D]	S-9	S-5	S-9	5/1 UN	
121	S-9[E]	S-9	S-7	S-9	7 UN	
122	S-9[E]	S-9	S-7	S-9	7/1 UN	
123	S-9[E]	S-9	S-7	S-9	7/2 UN	
124	C-9[A] Set to Sand Hump	C-9	S-23	S-9 + EGGN S-9+COGGN	L 1 UN-1	
125	C-9[A] Set to Main line	C-9	S-23	S-9 + EGGN S-9+COGGN	L 1 UN	
126	C-9[B] Set to Sand hump	C-9	S-25	S-9 + EGGN S-9+COGGN	L2 UN-1	
127	C-9[B] Set to Main line	C-9	S-25	S-9 + EGGN S-9+COGGN	L 2 UN	
128	C-9[C]	C-9	S-27	S-9 + EGGN S-9+COGGN	L3 UN	
129	C-9[D]	C-9	S-5	S-9 + EGGN S-9+COGGN	5 UN	
130	C-9[D]	C-9	S-5	S-9 + EGGN S-9+COGGN	5/1 UN	
131	C-9[E]	C-9	S-7	S-9 + EGGN S-9+COGGN	7 UN	
132	C-9[E]	C-9	S-7	S-9 + EGGN S-9+COGGN	7/1 UN	
133	C-9[E]	C-9	S-7	S-9 + EGGN S-9+COGGN	7/2 UN	
134	S-9[F]	S-9	S-41	S-9	L-9 UN	
135	C-9[F]	C-9	S-41	S-9 + EGGN S-9+COGGN	L-9 UN	
136	S-7[A]	S-7	S-37	S-7	L 7 UN	
137	S-7[B]	S-7	S-39	S-7	L 8 UN	
138	C-7[A]	C-7	S-37	S-7 +EGGN S-7+COGGN	L 7 UN	

Sl. No	Signal route	From signal	To destination	Buttons operated		Remarks
				Signal	Route	
139	C-7[B]	C-7	S-39	S-7 +EGGN S-7+COGGN	L 8 UN	
140	S-7[C]	S-7	S-41	S-7	L-9 UN	
141	C-7[C]	C-7	S-41	S-7 +EGGN S-7+COGGN	L-9 UN	
142	S-50	S-50	DN IBS of VZM	S-50	50 UN	
143	S-51	S-51	UP IBS of VZM	S-51	51 UN	

NOTE:

For taking off Calling on Signal after initiating the route, the Main signal should be put back by operating the concerned Signal button and EGGN Button. Press concerned signal button and COGGN Button.

THE PUSH BUTTON CHART FOR INITIATING SHUNT SIGNALS:

Sl. No	Shunt Signal Route	From Signal	To Destination	Buttons operated		Remarks
				Signal	Route	
1	SH-3 [A]	SH-3	S-23	SH-3	L-1 UN1	
2	SH-3 [B]	SH-3	S-25	SH-3	L-2 UN1	
3	SH-3 [C]	SH-3	S-27	SH-3	L-3 UN	
4	SH-3 [D]	SH-3	S-B	SH-3	L-4 UN1	
5	SH-3 [E]	SH-3	S-5	SH-3	5 UN	
6	SH-3 [F]	SH-3	S-7	SH-3	7 UN	
7	SH-4	SH-4	S-12	SH-4	12 UN	
8	SH-5[A]	SH-5	S-31	SH-5	L-5 UN	
9	SH-5[B]	SH-5	S-35	SH-5	S-6 UN	
10	SH-6	SH-6	S-12	SH-6	12 UN	
11	SH-7[A]	SH-7	S-37	SH-7	L-7 UN	
12	SH-7[B]	SH-7	S-39	SH-7	L-8 UN	
13	SH-7[C]	SH-7	S-41	SH-7	L-9 UN	
14	SH-8[A]	SH-8	S-12	SH-8	12 UN	
15	SH-8[B]	SH-8	S-14	SH-8	14 UN	
16	SH-8[C]	SH-8	S-30	SH-8	L5 UN	
17	SH-8[D]	SH-8	S-26	SH-8	L4 UN	
18	SH-8[E]	SH-8	S-B of L3	SH-8	L3 UN	
19	SH-8[F]	SH-8	S-24	SH-8	L2 UN	
20	SH-8[G]	SH-8	S-22	SH-8	L1 UN	
21	SH-10	SH-10	S-12	SH-10	12 UN	
22	SH-11[A]	SH-11	S-23	SH-11	L-1 UN	
23	SH-11[B]	SH-11	S-25	SH-11	L-2 UN	
24	SH-11[C]	SH-11	S-27	SH-11	L-3 UN	

Sl. No	Shunt Signal Route	From Signal	To Destination	Buttons operated		Remarks
				Signal	Route	
25	SH-11[D]	SH-11	S B	SH-11	L-4 UN	
26	SH-11[E]	SH-11	SH-15	SH-11	4A UN	
27	SH-11[F]	SH-11	S-41	SH-11	L-9 UN	
28	SH-12[A]	SH-12	S-40	SH-12	L 9 UN-1	
29	SH-12[B]	SH-12	S-38	SH-12	L 8 UN	
30	SH-12[C]	SH-12	S-14	SH-12	14 UN	
31	SH-13[A]	SH-13	SH-15	SH-13	4A-UN	
32	SH-13[B]	SH-13	S-41	SH-13	L-9 UN	
33	SH-14[A]	SH-14	S-36	SH-14	L 7 UN	
34	SH-14[B]	SH-14	S-34	SH-14	L6 UN	
35	SH-15[A]	SH-15	S-5	SH-15	5 UN	
36	SH-15[B]	SH-15	S-7	SH-15	7 UN	
37	SH-15[C]	SH-15	S-41	SH-15	L-9 UN	
38	SH-22[A]	SH-22	S-52	SH-22	52 UN	
39	SH-22[B]	SH-22	S-48	SH-22	48 UN	
40	SH-23	SH-23	S-49	SH-23	49 UN	
41	SH-24[A]	SH-24	S-52	SH-24	52 UN	
42	SH-24[B]	SH-24	S-48	SH-24	48 UN	
43	SH-25	SH-25	S-49	SH-25	49 UN	
44	SH-26[A]	SH-26	S-52	SH-26	52 UN	
45	SH-26[B]	SH-26	S-48	SH-26	48 UN	
46	SH-27	SH-27	S-49	SH-27	49 UN	
47	SH-30	SH-30	S-44	SH-30	44 UN	
48	SH-31	SH-31	S-49	SH-31	49 UN	
49	SH-34	SH-34	S-44	SH-34	44 UN	
50	SH-35[A]	SH-35	S-49	SH-35	49 UN	
51	SH-35[B]	SH-35	B/S .2	SH-35	B/S.2	
52	SH-35[C]	SH-35	TWS	SH-35	T/S-UN	
53	SH-35[D]	SH-35	B/S-1	SH-35	B/S-1	
54	SH-36	SH-36	S-44	SH-36	44 UN	
55	SH-37[A]	SH-37	S-49	SH-37	49 UN	
56	SH-37[B]	SH-37	B/S-2	SH-37	B/S-2 UN	
57	SH-37[C]	SH-37	TWS	SH-37	TWS .UN	
58	SH-37[D]	SH-37	B/S-1	SH-37	B/S-1 UN	
59	SH-38	SH-38	S-44	SH-38	44 UN	
60	SH-39[A]	SH-39	S-49	SH-39	49 UN	
61	SH-39[B]	SH-39	B/S-2	SH-39	B/S-2 UN	
62	SH-39[C]	SH-39	TWS	SH-39	TWS UN	
63	SH-39[D]	SH-39	B/S-1	SH-39	B/S-1 UN	
64	SH-40[A]	SH-40	SH-42	SH-40	5A UN	
65	SH-40[B]	SH-40	SH-46	SH-40	4A UN	
66	SH-40[C]	SH-40	S -44	SH-40	44 UN	
67	SH-41[A]	SH-41	S-49	SH-41	49 UN	
68	SH-41[B]	SH-41	B/S	SH-41	B/S 2 UN	

Sl. No	Shunt Signal Route	From Signal	To Destination	Buttons operated		Remarks
				Signal	Route	
69	SH-41[C]	SH-41	TWS	SH-41	T/S UN	
70	SH-41[D]	SH-41	B/S	SH-41	B/S 1 UN	
71	SH-42[A]	SH-42	S/N	SH-42	S/N	
72	SH-42[B]	SH-42	S-52	SH-42	52 UN	
73	SH-44[A]	SH-44	SH-46	SH-44	4A UN	
74	SH-44[B]	SH-44	S-48	SH-44	48 UN	
75	SH-46[A]	SH-46	S/N	SH-46	S/N	
76	SH-46[B]	SH-46	S-52	SH-46	52 UN	

PUSH BUTTON CHART FOR SIDINGS, CRANK HANDLES:

Sl. No	Description of control	Buttons operated
1	Releasing control for adjustment line or oil siding	129 + Group trans GSB
2	With drawl control for adjustment or oil siding	129+ group release GSRB
3	Permission to release CH. 1 Key	CH 1 YN + Group transCH RB
4	With drawl of control of CH 1 Key	CH-1 YN + Group release CH NB
5	Permission to release CH. 2 Key	CH 2 YN + Group transCH RB
6	With drawl of control of CH. 2 Key	CH 2 YN + Group release CH NB
7	Permission to release CH. 3 Key	CH 3 YN + Group transCH RB
8	With drawl of control of CH 3 Key	CH-3 YN + Group release CH NB
9	Permission to release CH. 4 Key	CH 4 YN + Group transCH RB
10	With drawl of control of CH 4 Key	CH-4 YN + Group release CH NB
11	Permission to release CH. 5 Key	CH 5 YN + Group transCH RB
12	With drawl of control of CH 5 Key	CH-5 YN + Group release CH NB
13	Permission to release CH. 7 Key	CH 7 YN + Group transCH RB
14	With drawl of control of CH 7 Key	CH-7 YN + Group release CH NB
15	Permission to release CH. 8 Key	CH 8 YN + Group transCH RB

16	With drawl of control of CH 8 Key	CH-8 YN + Group release CH NB
17	Permission to release CH. 9 Key	CH 9 YN + Group transCH RB
18	With drawl of control of CH 9 Key	CH-9 YN + Group release CH NB
19	Permission to release CH. 11 Key	CH 11 YN + Group transCH RB
20	With drawl of control of CH 11 Key	CH-11 YN + Group release CH NB
21	Permission to release CH. 12 Key	CH 12 YN + Group transCH RB
22	With drawl of control of CH 12 Key	CH-12 YN + Group release CH NB
23	Permission to release CH. 13 Key	CH 13 YN + Group transCH RB
24	With drawl of control of CH 13 Key	CH-13 YN + Group release CH NB
25	Permission to release CH. 14 Key	CH 14 YN + Group transCH RB
26	With drawl of control of CH 14 Key	CH-14 YN + Group release CH NB
27	Permission to release CH. 15 Key	CH 15 YN + Group transCH RB
28	With drawl of control of CH 15 Key	CH-15 YN + Group release CH NB
29	Permission to release CH. 16 Key	CH 16 YN + Group transCH RB
30	With drawl of control of CH 16 Key	CH-16 YN + Group release CH NB
31	Permission to release CH. 17 Key	CH 17 YN + Group transCH RB
32	With drawl of control of CH 17 Key	CH-17 YN + Group release CH NB

OPERATION OF SIGNALS:

All signals are directly operated from the Route Relay interlocking cabin as shown in the Station Working Rules diagram.

17.0 STATION MASTER KEY FOR OPERATING PANEL:

This key when inserted in the lock [provided on the Operating Panel] and turned right the panel becomes operative. The key when inserted in the lock and either turned to left or extracted out from the lock renders the panel inoperative except for putting back the signals to “ON” position in case of emergencies. When the SM’s key is inserted and turned to right a white indication lits by the side of SM’s key.

18.0 DISTANT SIGNALS AND THEIR ASPECTS:

The distant signals work automatically, the aspects of these signals being controlled by the aspect of the respective Home Signals.

19.0 EMERGENCY OPERATIONS AND THE COUNTERS:

Operation of the following buttons is recorded on the respective counters provided on the operating panel.

- i) Control for Emergency Point Button [EWN].
- ii) Control for Emergency full Route Release Button [EUUYN].
- iii) Control for Emergency Route Section Release Button [EUYN].
- iv) Control for “Calling on” Signal [COGGN].
- v) Control for Emergency Overlap Release Button [OYN].

The Panel Station Master on duty should keep a proper record of all such operations. A Register with separate portions for each button should be maintained. Each time a button is operated the readings on the respective counter should be recorded in the register mentioning clearly therein the circumstances under which the emergency operation had to be resorted to. At the time of handing over charge the relieved Panel Station Master should record and sign the last readings on the counters in the register and the Panel Station Master who takes over charge must verify, by physical check, the correctness of the readings recorded and counter sign the entry.

In case of failure of track circuit, the points can be set by operation of the emergency point button [EWN] and the point button concerned [after unlocking the EWN control lock] provided the point concerned was not engaged earlier or not locked. This electrical lock [ignition type] shall be in personal custody of the cabin Station Master and no emergency operations should be carried out without his permission.

The Panel Station Master on duty is responsible for all emergency operations explained above. The Panel Station Master is responsible for correct operation of the emergency buttons and record the operations in the register.

The Panel SM should not permit any unauthorized person to operate the control panel.

For every operation the signal button at the entrance point and the route button at the exit point have to be simultaneously positively pressed down for initiating the route setting, locking and taking off the signal.

Similarly for any individual point operation, the point button [WN] and the group point button [WWN] have to be pressed simultaneously.

The Panel Station Master on duty must ascertain as visual verification that the indication appearing on the indicating panel is in conformity with the operation of the buttons on the operating panel. The Panel Station Master must also ensure that not more than two buttons are operated simultaneously at any given time.

20.0 APPROACH LOCKING OF A ROUTE:

Once a signal [either a stop signal or a shunt signal] is taken off, the route including signal overlap in case of main signal gets back locked and the set route cannot be altered or interfered with unless the signal concerned is put back to “ON” position and the route is cancelled by emergency three button operation. After the initiation of such emergency three Button operation, the complete route gets cancelled provided there is no train on the approach track. If there is a train/vehicle on the approach track, the route gets approach locked and can be released only after the count down of 120 Seconds by the timer. [The approach locking distance being variable according to the aspect of the signal in rear and other important safety considerations such as maximum permissible sectional speed on the approaching line etc.]

The special cases of exceptions are the signal No.1,2,5,7,9,12,14,22,23,24,25,26, 27,30,31,32,33,34,35,36,37,38,39,40,41,44, where dead approaching locking is provided with a special conditional releases.

The shunt signal No.3, 4,5,6,7, 8,10,11,12,13,14,15,22,23, 24,25, 26,27, 30,31, 32,33, 34, 35,36, 37,38,39,40,41,42, have been provided with dead approaching locking [in the absence of approach track circuit] and in such case the route once set cannot be altered by emergency operation for a period of 120 Seconds after putting back the signal to “ON” position. Every such three button emergency cancellation is countered on the veeder counter.

21.0 EMERGENCY RELEASE OF INDIVIDUAL – ROUTE SECTION AND OVERLAPS:

A complete route of signal comprises of one or more Route Sections [as also the overlap in case of a stop signal] and whenever any route section or overlap is not released by either passage of the train or by emergency cancellation of the entire route as already mentioned above the emergency cancellation of the Route Section with the co-ordination of the SSE (Sig)/SE (Sig)/RRI on duty can be done and such cancellation is individually countered on the counter fitted on the panel.

22. TAKING OF CALLING ON SIGNALS:

TAKING ‘OFF’ CALLING ON SIGNALS:

The Calling ‘ON’ signals have been provided ‘ON’ the following stop signals at::

N O R T H E N D:

Sl.No	Button No	Signal No	
1	C-1	UP Home signal No.1	On UP Main line

2	C-22	DN starter signal No.22	On Line No.1
3	C-24	DN starter signal No.24	On Line No..2
4	C-26	DN starter Signal No.26	On DN Main line
5	C-30	DN starter Signal No.30	On Line No.5
6	C-34	DN starter Signal No.34	On Line No.6
7	C-36	DN starter Signal No.36	On Line No.7
8	C-38	DN starter Signal No.38	On Line No.8
9	C-40	DN starter Signal No.40	On Line No.9
10	C-44	DN starter intermediate Signal No.44	On Line No.5
11	C- 5	UP Intermediate Home Signal No. 5	On Line No.5
12	C- 9	UP Home Signal No.9	On RV UP main line
13	C- 7	Intermediate UP Home Signal No.7	On Goods Despatch/ Reception Line.

S O U T H E N D

Sl.No	Button No	Signal No	
1	C – 2	DN Home signal No.1	On DN Main line
2	C-12	Intermediate DN Home Signal No. 12	On Goods Despatch / Reception Line.
3	C-14	Intermediate DN Home Signal No. 14	On Goods Despatch/ Reception Line.
4	C-23	UP Starter Signal No.23	On main Line No.1
5	C-25	UP Starter Signal No.25	On Line No.2
6	C-27	UP Starter Signal No.27	On Line No.3
7	C-31	UP Starter Signal No.31	On Line No.5
8	C-35	UP Starter Signal No.35	On Line No.6
9	C-37	UP Starter Signal No.37	On Line No.7
10	C-39	UP Starter Signal No.39	On Line No.8
11	C-41	UP Starter Signal No.41	On Line No.9

During the failure of the stops signal either due to failure of any track circuits on the route including the overlap or for any other causes the “Calling on” signals may be taken off after the train has come to a stand at the stop signal, provided all the other conditions for taking off the stop signal have been fulfilled and the approach track immediately in rear of the said stop signal is occupied by train. After initiating the “Calling on” signal the “Calling on” signal indication shows a white flashing light for 120 seconds and after which it shows a steady white light. It is only when such a steady white light appears the “Calling on” signal displays “OFF aspect”. Every such operation is registered on a counter provided on the operating panel.

23. FAILURE OF APPROACH TRACK AND SPECIAL MEASURES FOR TAKING OFF A “CALLING ON” SIGNAL:

In case of failure of the approach track, instead of taking off the “Calling on” signal

the trains shall be piloted treating “Calling on” signal as failure and S & T official shall be informed for expeditious rectification.

During the failure of track circuit before taking off “Calling on” signal the clearance of the track on the entire route between stop signal to stop signal must be certified by the Station Master to the Panel Station Master. In all cases of reception/dispatch of a train by taking off the “Calling on” signal necessary particular including the train No. “Calling on” signal No. and the No. registered on the corresponding veeder counter should be recorded in a register maintained for the purpose.

24. **TAKING OFF THE SHUNT SIGNALS:**

For taking off a shunt signal the corresponding route button and the shunt signal button should be pressed simultaneous and released.

25. **CLEARING OF STOP SIGNAL:**

Whenever it is necessary to clear a stop signal, it is necessary to press the signal button and the exit button where after this route setting is initiated, the route is lined up and locking executed on all the route sections and the overlap thus holding the route ultimately proving the way and circuits for the signal clearance.

26.0 **ORDINARY AND SPECIAL ALTERNATIVE OVERLAP OF STOP SIGNALS:**

Some of the Starter Signals have been provided with more than One over lap[Which is designated after the next stop signal a head].

The Details of these over laps are as follows:

S.N	Signal No	Route No.	Move to	Overlap	Points.
1	S-1A, C-1A set to SH.	L-1 UN.1	S-23	OV-1, 23	132 R, 132 N
2	S-1A, C-1A set to M.L.	L-1 UN	S-23	OV-2, 23	132 R,133R, 145N,152N,
3	S-1B, C-1B	L-2 UN 1	S-25	OV-1, 25	132N, 133N
4	S-1B, C-1B	L-2 UN	S-25	OV-2, 25	132N, 133R,145N,152N, 154N
5	S-1C, C-1C	L-3 UN	S-27	OV-27	145N,152N, 154N, 133N
6	S-1D, C-1D	5-UN	S-5	OV-1, 5	122N, 123N
7	S-1D, C-1D	5/1 -UN	S-5	OV-2, 5	123 R
8	S-1E, C-1E	7 -UN	S-7	OV-1,7	125N, 126N,127R
9	S-1E, C-1E	7/1 -UN	S-7	OV-2, 7	125N, 126R
10	S-1E, C-1E	7/2 -UN	S-7	OV-3, 7	125R
11	S-2A, C-2A	12/2 UN	S-12	OV-3-12	135N, 141N
12	S-2A, C-2A	12-UN	S-12	OV-1-12	139N, 140R, 141R
13	S-2A, C-2A	12/1 UN	S-12	OV-2-12	139R, 141R
14	S-2B, C-2B	14 UN	S-14	OV-1 -14	138R

15	S-2B, C-2B	14/1 UN	S-14	OV-2-4	137R, 138N
16	S-2C, C-2C	L.5-UN	S-30	OV-30	122R, 123N, 124N
17	S-2D, C-2D	L-4 UN	S-26	OV-1-26	101N, 102N, 104R, 108N, 113N, 114N, 115N
18	S-2D, C-2D	L-4 UN-1	S-26	OV-26	112N, 113N, 114R, 115N
19					Space
20	S-2E, C-2E	L-1 UN	S-22	OV-22	116N
21	S-12A, C-12A	L-9 UN-1	S-40	OV-1- 40	125N, 129N
22	S-12A, C-12A	L-9 UN	S-40	OV-2-40	124R, 125R, 129N
23	S-12B, C-12B	L-UN	S-38	OV-38	125N, 126R
24	S-12C, C-12C	14-UN	S-14	OV-1-14	138R
25	S-12C, C-12C	14/1-UN	S-14	OV-2-14	137R, 138N
26	S-14A, C-14A	L-7 UN	S-36	OV-36	124R, 125N, 126N, 127R
27	S-14B, C-14B	L-6 UN	S-34	OV-34	123R, 124N
28	S-30[1], C-30[1]	44 UN	S-44	OV-1-44	107N, 108N, 113N
29	S-30[2],C-30[2]	44/1 UN	S-44	OV-2-44	112N, 113R
30	S-34, C-34	44 UN	S-44	OV-1-44	107N, 108N, 113N
31	S-34, C-34	44/1 UN	S-44	OV-2-44	112N, 113R
32	S-36, C-36	44 UN	S-44	OV-1-44	107N, 108N, 113N
33	S-36, C-36	44-1 UN	S-44	OV-2-44	112N, 113R
34	S-38, C-38	44 UN	S-44	OV-1-44	107N, 108N, 113N
35	S-38, C-38	44-1 UN	S-44	OV-2-44	112N, 113R
36	S-40B, C-40B	44-1 UN	S-44	OV-2-44	112N, 113R
37	S-5A, C-5A	L-5 UN	S-31	OV-3`1	
38	S-5B, C-5B	L-6 UN	S-35	OV-35	135N, 137R, 138N
39	S-9A, C-9A set to SH	L-1 UN1	S-23	OV-1-23	132R, 133N
40	S-9A, C-9A set to ML	L-1 UN	S-23	OV-2-23	132R, 133R, 145N, 152N,
41	S-9B, C-9B set to SH	L-2 UN1	S-25	OV-1-25	132N, 133N
42	S-9B, C-9B set to ML	L-2 UN	S-25	OV-2-25	132N, 133R, 145N, 152N,154N
43	S-9C, C-9C	L-3 UN	S-27	OV-27	113N, 145N, 152N, 154N
44	S-9D, C-9D	5 UN	S-5	OV-1-5	122R, 123N
45	S-9D, C-9D	5/1-UN	S-5	OV-2-5	123R,
46	S-9E, C-9E	7-UN	S-7	OV-1-7	125N, 126N, 127R
47	S-9E, C-9E	7/1 UN	S-7	OV-2-7	125N, 126R
48	S=9E, C-9E	7/2 UN	S-7	OV-3-7	125R
49	S-9F, C-9F	L-9 UN	S-41	OV-41	139N, 140R, 141R
50	S-7A, C-7A	L-7 UN	S-37	OV-37	135N, 138R
51	S-7B, C-7B	L-8 UN	S-39	OV-39	139R, 141R
52	S-7C, C-7C	L-9 UN	S-41	OV-41	139N, 140R, 141R

NOTE: Whenever any route is initiated by pressing the entrance and exit buttons, OV will set automatically along with the route. OV1 or OV2 can be set either setting the route of the head signal or according to the line of the points as the case may be.

Alternative overlap have been provided for some signals affording flexibility in the yard operations. When a route is initiated, the overlap [designated as OV] is automatically set over the route on which the train travels. But when an alternate overlap has to be set, first the route ahead has to be set by operation of entrance and exit buttons, then initiate the routes of the rear signal – after this operation the signal ahead may not be put back to “ON” and the route cancelled.

For these over laps, it is not necessary to initiate the signal route for the advance section. The overlaps will be set according to the line of the point at the time of the initiation of the route and therefore the Panel Station Master has to be mindful of keeping of the points on the overlap in the desired position before initiating the route.

27.0 TIME RELEASE OF OVERLAP:

Any overlap, which is set for signalled route will be released after the train comes and stops at the berthing track to ensure that the train has come and stopped on berthing track a time releaser 120 seconds is provided for the release of overlap. Accordingly counting of time space as soon as the train comes on the berthing track just in rear of the signal and after a lapse of 120 seconds the overlap is released automatically permitting other routes to be set on the portion of the overlap.

In case of failure of release of the overlap at the end of 120seconds due to any reason, emergency overlap release is effected by pressing the concerned route button and a overlap release button [OYN]. The overlap is released immediately and the operation is recorded in the emergency overlap is counter [OYN].

28.0 PUTTING BACK THE SIGNAL TO “ON” POSITION:

In exigencies, when a stop signal or a “Calling on” signal or a Shunt signal has to be put back to “ON” before passage of the train, the concerned signal button [GN] and the emergency signal cancellation button [EGGN] should be pressed simultaneously.

29.0 LOCKING OF POINTS NORMAL AND SPECIAL CASES:

Normally the electric machine operated points can be set and locked provided the point zone track circuit is free and the subject point is not locked either by a route section or an overlap on flank protection arrangement.

The locking on the point is normally released immediately after the clearance of the route section or the overlap and the flank protection locking is released after the clearance of the controlling route section.

30.0 INDIVIDUAL OPERATION OF POINTS WHEN THE TRACK CIRCUIT/CIRCUITS IN THE POINT ZONE HAVE NOT FAILED:

Whenever an individual point/crossover is to be set the point button [WN] concerned and the group point button [WWN] should be simultaneously pressed and released. Such an operation will change the point /crossover from normal to reverse or from reverse to normal provided the track circuit/circuits in the point zone are not occupied.

Whenever any point cannot be operated to house either in normal or reverse position, a flashing indication appears on the point concerned on the indication panel. The point can be set to its original position by the operation of the point button [WN] concerned and the group point button [WWN].

31.0 INDIVIDUAL OPERATION OF POINTS IN CASE OF FAILURE OF TRACK CIRCUITS /TRACK CIRCUITS POINT ZONE:

In the event of failure of the track circuits controlling the points, the Panel Station Master should first personally or through field Station Master ensure that the track circuit concerned is not occupied by a train /vehicle and then go for emergency operation of points the Cabin Station Master should unlock the EWN lock on the operating panel by operating EWN key [provided for the purpose], press the point button [WN] along with the emergency point button [EWN] and release the buttons. Each time point is thus operated, the same will be recorded on the “EWN” counter.

32.0 FAILURE OF THE POINTS DUE TO ANY OTHER CAUSES:

If any point fails before a route is lined up, the Cabin Station Master should first try to set and reset the same point by individual operation to ascertain if the said point can be set in a particular position.

If the said points cannot be set in any position, the Cabin Station Master should not use the route concerned for normal signaled movement until the defect is rectified by Signal staff and certificate to this effect is obtained from SE [Sig],/ JE [Sig] on duty. However, Crank handle operation may be done.

33.0 PADLOCKING AND CRANKING OF POINTS WITH CRANK HANDLE AND ITS CONTROLLING KEYS AND SPECIAL PRECAUTIONS:

For the use of Crank handle for motor operated points the instructions laid down in rule No.20.06 of operating Manual should be followed.

When the points are set by means of Crank handle, the field Station Master on duty shall ensure that the entire route is correctly set, all the facing and trailing points are clamped and padlocked.

All the points on the route must be clamped and padlocked for any signalled movement.

The keys of the padlock of all the clamped and locked points should be kept in the personal custody of the field Station Master before the pilot memo is handed over to the Driver.

When once the route is so set manually by the field Station Master and all the points on the route are clamped and padlocked, the same shall not be interfered with in any way until the movement over the points concerned is completed or, the movement is cancelled, and such cancellation is authenticated by exchange of Private Number.

If any point has failed after setting of the route in Normal/Reverse position or both. A white indication strip start flashing depending upon the position at which the point had failed. In such case the route concerned shall be cancelled and shall not be used until the defect is rectified by signal staff.

34.0 RELEASING OF A SUB-ROUTE SECTION:

If any route section over a point zone is not released after passage of a train due to failure of track circuit or otherwise, the route section can be released by means of Emergency operation by Station Master on duty in presence of SE (Sig) .

35.0 FAILURE OF TRACK CIRCUITS AND SIGNALS:

In the event of failure of track circuits over points zone setting of the points will be done by Emergency operation after the Field SM ensures that the points zone is clear of vehicles and gives an assurance supported by a Private number to that effect. In case of failure of track circuits, calling-on-signals where provided may be taken off. If there is no Calling-on-signal or if the same is out of order, the train concerned should be piloted past the signal concerned up to next stop signal ahead after ensuring the clearance of the route and setting, clamping and padlocking the points on the route by the field SM.

36.0 SIGNAL ASPECT:

The aspect control chart of the signals in Vizianagaram Yard in accordance with the aspect control chart as indicated in the Interlocking Plan No:- 11188, Alt-E [Vizianagaram RRI].

The failure of a Signal lamp of an aspect at site renders the signal to assume its next restrictive aspect. During failure of signal lamp the physical aspects of the signal at site and indications on indication panels are given below.

Srl No	Aspect Displayed before failure of signal lamp.		Particulars of failure of lamp	Aspect displayed after failure of signal lamp.	
	By signal at site	By signal symbol on panel		By signal at site	By signal symbol on panel.
1.	Red	Red	Red lamp-main filament fused.	Dim red.	Flashing red.

2.	Red	Red	Red lamp-both filaments fused.	Signal in rear reverts back to ON position.	Flashing red.
3.	Yellow	Green	Yellow lamp main filaments fused	Dim yellow	Steady Green.
4.	Yellow	Green	Yellow lamp both filaments fused.	Red	Flashing Green with Red.
5.	Double yellow	Green	One yellow lamp both filaments fused	Yellow	Flashing Green
6.	Double yellow	Green	Both yellow lamps both filaments of both lamps fused.	Red	Flashing Green with steady red
7.	Green	Green	Green lamp main Filament or auxiliary filament fused	Double yellow in 4 aspect signals and yellow in 3 aspect signals.	Flashing Green.
8.	Green	Green	Green lamp both filaments fused	Yellow	Flashing Green.

SPECIAL NOTE:

- i) In addition to the failure of both filaments of Green lamp, failure of one or both filaments of one or both filaments of yellow fail the aspect assumed by the signal at site is Red.
- ii) A small flashing white light is lit near the main signal symbol, if the signal is put to danger and route cancellation is initiated when it is approach locked. This light remains flashing for 120 seconds after which it becomes steady. Then the panel Station Master should commence three button emergency route cancellation.
- iii) When a Calling on Signal below a stop signal is taken off, a white dot is lit below the stop signal.

- iv) White is not provided on indication panel/operating panel is lit above Green indication signal symbol whenever signal is taken “off” with route indicator for a diversion.

37. **SIGNAL REPLACEMENT AND CANCELLATION OF A ROUTE ALREADY SET:**

Once a signal is taken off it should not be put back to “ON” position unless absolutely required. For this, the signal button concerned and the emergency signal group button EGGN should be pressed simultaneously. This operation will make the signal to assume ‘ON’ aspect while the route is still held and the three button emergency route cancellation processes must be initiated for cancelling the route already set. Refer to the following Para.

38.0 **CANCELLATION OF A ROUTE:**

If, after setting of the whole route and taking off the signal concerned, the route is to be altered the signal concerned must first be put back to “ON”. If there is a train on the approach track or the signal is provided with dead approach locking the subject route gets released only after count-down of 120seconds after the signal is put back to “ON”. Then route can be cancelled by three buttons cancellation.

The countdown of 120 seconds time interval is indicated by flashing white light on the approach lock indicator provided at the foot of the corresponding signal symbol on the indication panel. After the interval of 120 seconds a steady white light appears and the flashing light ceases.

The panel Station Master should press the signal button and the emergency button EUUYN, keeping the signal button still pressed on, he should press the relevant route button. This operation will release the whole route and this will be indicated by extinguishing of the concern route lights on the panel. However, if the approach track of the signal is not free the cancellation cannot be done immediately. In both cases this cancellation operation is counted electrically on the digital counter. The transaction along with the time and reasons and the number registered on the counter should be recorded in a register specially kept for the purpose.

39.0 **REPLACEMENT OF ‘CALLING-ON-SIGNAL TO ‘ON’ POSITION:**

After taking off a Calling-on-Signal if the same is to be put back to “ON position, the signal button concerned” [GN] and the emergency signal group button [EGGN] should be pressed simultaneously. In this case, also the route that was originally set and locked by the process of clearance of the signal is to be cancelled in accordance with instructions contained in the route cancellation Para mentioned above.

40.0 **FORMATS FOR VARIOUS EMERGENCY OPERATIONS**

FORMAT [a] FOR EMERGENCY SUB-SECTION ROUTE RELEASE:

Date & Time	Route Section	Counter Number		Remarks	Signature		
		Before Release	After Release		On duty Dy.SS RRI	On duty SSE [Sig]/SE	[Sig]/RRI

FORMAT [b] FOR EMERGENCY OVER LAP RELEASE.

Date & Time	Overlap route button No.	Counter Number		Remarks	Signature	
		Before Release	After Release		On duty Dy.SS RRI	On duty SSE [Sig]/SE [Sig]/RRI

FORMAT [c] FOR EMERGENCY POINT OPERATION:

Date & Time	Time of operation	Counter Number		Track circuit No failed.	Signature
		Before Operation	After Operation		On duty Dy.SS RRI

FORMATE [d] FOR EMERGENCY FULL ROUTE CANCELLATION:

Date & Time	Time of operation	Counter Number		Route cancelled	Reason for cancellation	Signature
		Before Operation	After Operation			On duty Dy.SS RRI

41. EMERGENCY CRANK HANDLE INTERLOCKING:

Except the mechanically operated points which are duly controlled by the Route Relay Cabin, all points in Vizianagaram Yard are operated through electrical point machine provided at site. These are remotely controlled and operated from Route Relay Cabin normally. Whenever there is a failure of a power-operated point, it should be crank handled at site. For this purpose, it is necessary to insert aperture with the help of the concerned and associated control key. Unless this aperture is opened by the operation of the controlling key the emergency crank handle cannot be inserted in the motor and operated to set the points. This control key will remain held on the point motor while it is being operated by the emergency crank handle. After the point is set and the crank handle is removed, the control key can be extracted and in that process the crank handle-inserting aperture gets closed and locked automatically.

The crank handle interlocking key is inserted in the crank handle interlocking box housed in the location/goomty and turned anti-clockwise when, it gets locked. This key cannot be extracted from the box unless the control for releasing the key is transmitted from the Route Relay Cabin when the release control is transmitted from the Route Relay Cabin a white indication appears just below the key. After obtaining the above indication the RED button below the key must be pressed and the key must be turned clockwise and extracted simultaneously. One/Two/Three controlling keys are provided in each box with individual indication and button below the respective key. Inter locking has been provided between signals and emergency crank handle

control keys in such a way that the points which controls and once the crank handle key is extracted it is not possible to set the route and clear the signal/signals reading over that point/points till such time the key is restored back to its box. For the purpose of facilitation & flexibility and quick reach of the emergency crank handle the crank handle keys have been provided in different groups at different areas in the Yard.

Zone	Crank Handle controlling key combinations Nos.	Controlled Point Nos.	Location
NORTH	CH 1	101, 104, 106	CH GOOMTY
	CH 2	102,103, 105	
	CH 3	107	CH GOOMTY
	CH 4	108, 113, 114	
	CH 5	116, 117	
	CH 6	Spare	
	CH 7	122, 123, 124, 125, 126 127	
NORTH	CH 8	Spare	CH GOOMTY
	CH 9}	112, 115	
	CH 10	Spare	CH GOOMTY
SOUTH	CH 11	152,154	
	CH12	147, 148, 153, 155	
	CH 13	139, 140 141	CH GOOMTY
	CH 14	134, 135	
	CH 15	145	
	CH 16	132, 133	CH GOOMTY
	CH 17	137, 138	

One crank handle is kept in a pad locked box kept at each of the above places and the keys of this padlock after locking the crank handle shall remain in the personal custody of the Station Master RRI.

The crank Handle along with the concerned controlling key can be handled only by the concerned field SM and the S&T maintenance staff as per the instruction of the Cabin Station Master. It is the personal responsibility of the field SM/Cabin Station Master to ensure that as soon as the required manual operation of the point /points in his zone are completed, the crank handle is restored to the padlocked box and the box properly pad locked and that the crank handle control key is also returned to the respective crank handle interlocking box and transmitted to the Route Relay Cabin expeditiously

It will be seen from the above table that, in all there are nine groupings covering all the power-operated points in Vizianagaram yard. Control keys have special arrangements of configuration for each group and the point machines of the corresponding group have a matching configuration at the key hole permitting the entry of the key meant only for the particular set of points in that group. The detailed procedure of the emergency crank handle operation of points at different zone are given below:

42. POINT ON SOUTH AND NORTH ZONE:

The concerned field SM shall exchange private number with the cabin Station Master from the respective zones (South /North) giving his identification. The Private Number shall be recorded in the crank handle register. The cabin Station Master should then order the Panel Station Master to release the concerned crank handle controlling key. The Panel Station Master should release the control by pressing the concerned crank handle button and the crank handle group button [CHRB]. The release of CHNB the control is indicated by flashing WHITE indication on the panel near the crank handle button.

At site on the concerned crank handle-interlocking box, the RED indication appears below the key. The field SM should then press the RED button below that key and extract the key from the box. The extraction of the key is indicated on the Route Relay Panel by flashing RED indication.

The point/points is/are then operated with the help of the emergency crank handle taken out by the field SM from the pad locked box in the goomty/gate lodge after opening the aperture in the point machine with the help of the controlling key by the field SM at site and set to the desired position, clamped and pad locked both facing and trailing and the keys of the pad lock shall be in the personal custody of the field SM after which the field SM shall restore the controlling key to its original place in the crank handle interlocking box (after locking the crank handle in its box) and turned clockwise.

Restoration of the controlling key back in its place is indicated by turning of the flashing 'RED' indication into steady 'RED' with flashing 'WHITE' indication. The panel operator should then withdraw the released control by pressing the crank handle button and the CHNB. The steady RED indication disappears and steady WHITE indication appears indicating the normal condition. The WHITE indication on the crank handle interlocked box at site also disappears.

When the control has been withdrawn the field SM should advise the Cabin Station Master communicating a Private Number assuring him that the desired point/points has been operated to the required position as ordered by Cabin Station Master, set correctly, clamped and padlocked in their proper position and the control is returned. The private number given by the field SM shall be recorded in the crank handle register.

The Cabin Station Master on duty , after ensuring the correct setting of defective points shall verify from the visual indication available on the panel that all the points on the route are set to the desired position and shall instruct the Panel Station Master to take off the concerned signal for movement of train over the said point/points.

If the correct setting of the defective points in the desired position is not indicated on the panel, the train shall be piloted IN/OUT in terms of Subsidiary rules No.3.69.01, 3.69.02, 3.69.03, 3.70.01 and 3.70.02.

The route once set and locked for receiving or despatch a train shall not be interfered with unless the said movement is completed or cancelled and expressly so directed by the Cabin Station Master.

Whenever the crank handle is required to be used by a signal official for maintenance work or for attending failure, the signal official must give disconnection memo (SI4) to the Cabin Station Master on duty. After making necessary entries in the crank handle register, the Cabin Station Master shall obtain the acknowledgement of the signal official in the crank handle register and then release the concerned crank handle controlling key to the signal official.

The concerned point/points shall be treated as defective till the emergency crank handle controlling key is restored to its normal place and control is withdrawn by the Panel Station Master.

Before parting/releasing control with the emergence crank handle for maintenance work by signal official, the Cabin Station Master shall ensure that the reception/departure signals for effected line/lines are at “ON” position. The points as the effected line should be treated as non-interlocked and the Cabin Station Master should instruct the concerned field Station Master for setting clamping and padlocking the facing and trailing points over which the train is to be passed and such assurance is taken by the Cabin Station Master from the field Station Master supported by Private Number before piloting IN/OUT of trains over the affect points as per GR 3.69, 3.70, 5.09 and SR's thereto.

An emergence crank handle register is to be maintained in the Route Relay Cabin with the following proforma by on Cabin Station Master of Route Relay Cabin wherein the particulars of usage of the emergency crank handle must be recorded.

- i) Date.
- ii) Point No, which failed or required to be tested.

- iii) Time of failure.
- iv) Disconnection Memo No. received from S&T staff.
- v) Points controlling key No. released from Route Relay Cabin.
- vi) Time when release was given.
- vii) Private Number/ signature assuring correct setting, clamping and padlocking of the concerned points.
- viii) Private Number or signature of the official to whom the controlling key is released.
- ix) Date and time fault rectified.
- x) Time when controlling key release withdrawn by Panel Station Master.
- xi) Signature and designation of official who rectified the fault.
- xii) Remarks.

When point become defective the Cabin Station Master must comply with GR 3.51, 3.77, 5.10 and SR's thereto and he must notify all concerned promptly for speedy restoration.

When interlocking fails all the effect points on a route, both facing and trailing points must be clamped and padlocked before allowing any movements over the affected points.

For use of Crank Handle for motor operated point refer to rule No.20.06 of Operating Manual also.

INTERLOCKING BETWEEN SIGNALS AND BLOCK INSTRUMENT:

This Route Relay interlocking Cabin is equipped with the following types of Block instruments to control movements of trains from and to adjacent Block Section.

SNo	Section	Type of Block Instrument
1	VZM-GTLM	SGE type Double line Lock & Block Instrument.
2	VZM-NML	
3	VZM-KUK	

43.0 INTERLOCKING BETWEEN SIGNAL AND BLOCK INSTRUMENTS**1) LAST STOP SIGNAL CONTROL:**

A) The Block working of UP and Down line section VZM-GTLM is controlled with the provision of double line Lock and Block Instruments (SGE type) and is provided at Route Relay Cabin. The Down Advanced starter signal No. S 48 (towards NML) and UP Advanced Starter signal No. S 49 (towards KUK) are controlled by the clearance of IB section through respective axle counters and the IB Home signal are controlled in turn through the line clear position of respective double line lock and block instruments.

B) Trains between intermediate block signal to respective Home signal of Station in advance in both the sides are worked by means of SGE type lock block instrument vide 4.09, 5.07, 14.01 to 14.14 of the G & SR and chapter V of BWM.

Last stop signal to the intermediate block stop signal in both the sides are controlled by Electronic Axle counter and are worked under absolute block system in terms of G & SR 14.01, 14.13. Indications provided with the panel are as follows.

IB Section:

Occupied:- RED illuminated indication.
Clear: White illuminated indication.

To indicate the condition of the
IB section in the concern cabin.

C) Up block section : NML-VZM

i) **Occupied** : Indication illuminated RED to indicate the occupied condition of block section.

ii) When the train passing IBH signal at on, illuminated RED indication is provided to indicate the condition of the UP block section at NML South Cabin.

D) Dn Block section VZM-NML

When the train passing IBH signal at on, illuminated RED indication is provided to indicate the condition of the DN block section at VZM RRI cabin.

E) Condition of IBH signal

i) IBH signal 'ON':- Indication illuminated RED.

ii) IBH signal 'OFF':- Indication illuminated GREEN.

iii) Buzzer/Bell

There is one buzzer/Bell is provided in the RRI Operating Panel for out going trains. After train passes the intermediate block stop signal, the buzzer/bell will start ringing in the RRI cabin. On hearing the buzzer/bell the Dy.SS/SM must acknowledge the same by pressing train entering section [TES] muting push button to stop the buzzer/bell and then send train entering section report to the cabin master of the station in advance who in turn will turn commutator of the Double line Lock and Block Instrument from the line clear position to Train On Line position and acknowledge train entering section.

- F) In the event of failure of track circuit [i.e. track clear indication not available] which shall not permit taking 'OFF' last stop signal, it should be ensured by Dy.SS/SM on duty at the dispatching station through exchange of private number with the Dy.SS/SM of the receiving station that the last train that passed the last stop signal of his station has fully arrived at receiving station, before allowing the next train to enter in to the section, such permission to the next train shall be granted
- i) By issuing the pilot memo when normalization of the system is not possible. In such case, line clear has to be taken on lock and block instrument. Trains are to be despatched from the station only after obtaining line clear till such time track circuit are last stop signal is restored to normal.
- G) NORMALIZATION OF THE TRACK CIRCUIT AND OF BLOCK WORKING BY RESETTING FEATURE:**
- i) No train should be allowed to leave station in any particular direction unless track clear indication is available for the relevant track circuited portion and last stop signal can not be taken of provision of para g.III to be followed.
- ii) A Resetting arrangement for the resumption of Axle counter under failure condition through co-operative features of both the Dy.SS/SM on duty at either end station of the Block section is provided, which should only be resorted to after the train that was lastly sent arrives fully at the receiving station and is certified in this respect by the Dy.SS/SM at the receiving station through exchange of private number.
- iii) An operating panel [called Resetting panel] for such resetting purpose is provided at each station placed on the Dy.SS/SM's RRI cabins table with push button, indication and counter as shown in diagram. The Re-setting button and permission button on the Resetting Panel should normally be kept sealed by the Maintainer and Dy.SS/SM will inform the Maintainer for resealing the same whenever the seal has been broken.
- iv) The Dy.SS/SM RRI Cabin on duty shall maintain a separate register for use of resetting button wherein every operation of the resetting button shall be recorded giving details of date of use, train, number, time, number registered on the counter and reasons for resetting and initial each such entry.

- v) The procedure for resetting of the equipment in terms of clause g.II above should be follows:

Action to be taken by Dy.SS/SM on duty at Dispatching station	Action to be taken by Dy.SS/SM or ASM on duty at receiving station.
1. He shall call the attention of the station in advance through magneto Phone provided at station of resetting and shall establish communication with the said station if resetting of equipment is considered necessary giving details of last train that left his station in to the section.	
	<p>2. The receiving station shall inform the sending station as to whether the last train that entered into the section had arrived fully shall so intimate verified by exchange of private number with the sending station.</p> <p>The receiving Dy.SS/SM/ASM shall then unseal the permission push Button for giving permission to sending station for resetting and shall Press the same and keep it pressed for some time.</p>
3. Shall unseal the acknowledgement Button and shall press the same and keep it pressed for some time simultaneously with the pressing of permission button by the receiving station.	
4. An indication lamp shall be lit on the resetting panel above the resetting Counter, when the acknowledgment Button as also the permission button at the receiving station can be released. Simultaneously the veeder counter also will record the next higher number.	
5. The Dy.SS/SM shall then make entry in the Resetting register as detailed in para.30.9	

Action to be taken by Dy.SS/SM on duty at Dispatching station	Action to be taken by Dy.SS/SM or ASM on duty at receiving station.
<p>6. The Dy.SS/SM shall then initiate resetting button to normalize the section after having obtained line clear On the lock & block instrument for the train to be despatched. The Dy.SS/SM of despatching as well as receiving stations respectively shall then jointly press their respective resetting buttons. When the system shall normalize and the track clear indication should appear.</p>	
<p>7. The Dy.SS/SM shall record in the Train register the resetting operation giving details of train number time, private number exchanged with the receiving station for the operation of counter provided in the resetting panel and reasons for use of resetting panel.</p>	
	<p>8. The Dy.SS/SM/ASM shall record in his train register the resetting operation giving train number, time, private number exchanged with the Dy.SS/SM in rear giving reasons for the resetting operation.</p>

H) **DESPATCH OF TRAINS:**

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

I) **From VZM towards NML and VZM towards KUK:**

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

J) **VIZIANAGARAM TO IBS ON UP AND DOWN LINES:**

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

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

K) IBS SIGNAL TO THE STATION IN ADVANCE:

The Dy.SS/SM in RRI Cabin shall obtain line clear over lock & Block instruments from the station in advance to dispatch a train past the IBS signal at the respective ends and shall take off the IBS signal by means of taking of signal No.50 & 51 respectively.

After the train passes the intermediate Block Stop signal of Vizianagaram a buzzer will ring in the RRI Cabin. On hearing the buzzer/bell the Dy.SS/SM must acknowledge the same by pressing train entering section [TES] muting push button to stop the buzzer/bell and then send train entering section report to the cabin master of the station in advance who in turn will turn commutator of the Double line Lock and Block Instrument from the line clear position to Train On Line position and acknowledge train entering section. After despatch of a train from Vizianagaram into the Block section between Vizianagaram/Korukonda and intermediate Block Post in case when the intermediate stop signal is not taken 'off' but the buzzer has started ringing, this may be either due to the train passing intermediate Block stop signal at 'ON' position or due to failure of the track circuit in advance of that intermediate Block Signal and shall exchange Private Number with the Cabin Master in advance indicating the occurrence and the number of the train. On getting the information from the Cabin Master supported by Private Number, the Dy.SS/SM on duty at Vizianagaram in turn will inform SCR on duty about this.

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

- L) (i)** Despatch of trains towards Nellimarla in case of failure of the Down Advanced Starter signal at Vizianagaram Station due to failure of "Axle Counter" device or otherwise. If the failure of the Advanced starter of vizianagaram due to the failure of axle counting device or the indication lamp (repeated by indication lamp) showing 'Red' light either due to power failure or due to any other causes, the re-setting "Push Button" provided with Veeder counter at the Dy.SS/SM's office for resorting the normal function of the signal, should be operated accordingly to the following instruction whenever the Advance starter signal of Vizianagaram is found defective by the Station Master and the following procedure shall be adopted.

On receipt of this information, the Dy.SS/SM on duty after ensuring that all trains which had left his Block Station had arrived complete and intact at NML station (by exchange Private Number with the Dy.SS/SM Vizianagaram confirming this), shall press the resetting button of the axle counter. When the

resetting is successful, it shall be indicated by a green light in the resetting panel provided in the Dy.SS/SM's office at VZM North. The resetting button is normally kept sealed by the ESM- in-Charge of the section. The use of this resetting button is registered on the veeder Counter and the Dy.SS/SM should record this giving the details of the occasion with timings in the Veeder Counter register kept in the station.

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

(ii) Despatch of trains towards Kouukonda in case of failure of UP Advanced starter signal at VZM due to failure of Axle counting device or other wise:- same procedure shall be adopted (for KUK) in the para 26.4(i).

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

- a) When a driver finds an intermediate Block Stop signal at 'ON' Position he shall stop his train in rear of the signal and advise the guard of the fact by sounding long continuous whistle and shall then contact the Station Master of the Block Station in rear over the signal post telephone provided for the purpose vide SR.3.75.01[i].
- b) If the Dy.SS/SM of RRI cabin, on being contacted over Telephone by the driver, finds that the signal is defective, he shall, after obtaining "Line Clear" for the train from the station in advance, authorized the driver on the telephone to pass intermediate Block Signal at "ON" and enter the block section ahead. He shall give Driver the Private Number and identification Number under which he has received "Line Clear" for the train from the station in advance. The driver shall then sound one short, one long and one short whistle and , on receipt of Guard's signal shall proceed ahead duly exchanging signals with him. The station Master on being contacted by the Driver on signal post telephone if he is unable to obtain "Line Clear" for the train due to total interruption of communications, shall call for the Guard's through the Driver and on being contacted by guard, he shall advise the guard of the circumstances and give a Private Number for the train to proceed upto the next block station. The guard shall prepare a memo in duplicate authorising the Driver to proceed with the Private Number received from the Station Master. In such case the speed of the train shall be restricted as prescribed in GR 3.75(3).

- c) In such case the Driver shall pass the IB signal at “ON” and proceed cautiously and be prepared to stop short of any obstruction, at a speed not exceeding 15 Kilometers an hour if he has a good view of the line ahead, otherwise at a speed not exceeding 8 kilometers an hour and report the failure to the Station Master at the block station ahead.

While complying with the instructions contained in GR 3.75(3), when the Driver has to pass IB signal at “ON” after waiting for 5 minute at the signal, he shall proceed cautiously preparing to stop short of any obstruction at a speed not exceeding 15KMPH when view ahead is clear and 8KMPH when view ahead is not clear due to curve, obstruction, rain, fog or any other cause until he reaches the foot of the next stop signal and even the signal is “OFF” the Driver shall continue to look out for possible obstruction short of the same and will act upon its indication only after he has reached it. Before starting, the Driver shall sound one long whistle which may be repeated as necessary and shall then start his train on receipt of Guard’s signal. Thereafter he shall exchange signals with the Guard.

On reaching the block station ahead the Driver shall report the failure of the signal to the Station Master. If, the telephone is provided at the intermediate Block Stop signal Post is out of order the Driver will pass the IB signal as per GR 3.75(3) & SR 3.75.02, and on reaching the block station ahead, the Driver shall report the failure of the signal to the Dy.SS/SM, Following train shall not be allowed to leave VZM unless the complete arrival of the receiving train is certified by the SM on duty at NML/KUK under exchange of Private Numbers. The station Master of the block station working the intermediate block stop signal on becoming aware that such a signal is defective shall, before dispatching the train, treat the entire section up to the block station immediately ahead of the intermediate block post as one block section and issue a written authority to the driver to pass the defective intermediate Block Stop Signal at “ON” without stopping at the signal. In accordance with the procedure prescribed by special instruction.

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

- d) However, if the DY.SS/SM on the Block station immediately in rear of an intermediate Block Signal is aware that UP/DN intermediate Block Signal is defective shall before Despatching a train shall verify that all trains which had left his Block Station had arrived complete and intact at NML/KUK station (by exchanging Private Number with SM-NML-KUK) shall press the resetting button of Axle counter equipment. Thereafter driver shall be handed over the authority of T-369[3b] to pass IBS Signal at “ON” position where in, the Private Number and indication number obtained for line clear, shall also be written. While doing so the assurance of intervening Gateman at the L.C Gates which is/are interlocked with IBS shall be taken supported by Private Number[as stated in APPANDEX-“A” of L.C Gate at KM811/8] and shall be endorsed on T-369[3b]. This procedure shall continue till failure of signal is rectified.

The resetting push button provided in DY.SS/SM's office is normally, sealed by DY.SS/SM. The use of this re-setting push button is registered on the veeder counter and DY.SS/SM should record this usage giving details of the occasion with timings in the veeder Counter/register and also train registers.

N) INDICATION CUM RESETTING PROVISION IN THE PANEL AT VIZINAGARAM RRI :

The Panel Provided for following light indications:

- i) Two green lamps for the track- circuited portion by Axle Counter, which remain normally lit to indicate that the track is clear. These lamps extinguish no sooner the train passes the last stop signal and their place two red light are lit to indicate that the track is occupied.
- ii) Two red lights for the last stop signal replacement track circuit which remain lit so long this track- circuit is occupied or in under failure condition.
- iii) Two red lights ahead of the IBS Signal, which are lit if the train passes the side signal in "ON" Position. These lights continue to glow till such time the lock and block working is resumed through emergence re-setting feature.
- iv) Two red lights just ahead of IBS Signal for the IBS signals replacement track circuit. These lights normally remain dark and are lit either during occupation by a train or during failure of this track circuit.
- v) Two red lights for the block section for receiving trains. These lights shall normally remain no light and shall be lit only when the incoming train passes the IBS signal. It remains lit till such time train arrives fully and Block Instrument is normalised.
- vi) Light indicate aspect of L.S.Signal, IBS signal and distant signal of IBS signals.
- O) This Panel is Provided with re-setting push button kept normally sealed, It is also Provided with veeder counter which registers one count up when ever re-setting push button is pressed.
 - i) This re-setting push button should be used only when the track circuited portion of the section continues to show red indication eve after the train has fully cleared the section or in case of a train having passed the IIBS signal in 'ON' position .
 - ii) This re-setting push button should be operated by the DY.SS/SM on duty verified by exchange of Private Number . it has to be pressed after getting green indication and veeder counter shall register one count up. This number should be recorded in a separate register maintained for the purpose.

- iii) The panel is provided with following push button /switches for alarm bell .
 - a) One push button for the purpose of muting the alarm bell, which rings when the incoming train passes the IB signal, instrument handle is turned to TOL position .
 - b) One /two position switch for muting another bell ,which rings when the out-going train passes the IB signal. The bell again rings when the receiving station turns his block instrument handle to TOL position the switch has to be turned to its initial position to mute the bell for the Second time .

P) RE SETTING PROVISION FOR THE PANEL STATION MASTER:

- i) A push button with a green knob is provided at the top of panel for according permission to the station in rear for re-setting of the axle counter or normalization of the double line Block instrument of both, The push button shall normally be kept sealed .
- ii) One push button is provided below the first one and having yellow knob for the purpose of acknowledging the permission accorded by the station in advance . This push button has to be pressed in conjunction with the push button pressed by the station advance for giving permission .
- iii) Pressing of push button vide item –1or vide item-2 above should be undertaken only after it is verified that the section between station to station is clear of all trains verified by exchange of Private numbers.
- iv) One Veeder counter is provided just above the acknowledgement button which registers one count up for every operation of the acknowledgement button This number should be entered in a separate register kept for the purpose.
- v) There are three miniature lamps in the re-setting panel (SM's Table).
Green lamp _ permission provided from the station in advance for resetting.
Yellow-lamp Permission given to the station in rear for re _setting.
Red_ When permission received is acknowledged After verifying any of the section between station to station is clear of all trains and button to be pressed either for granting the permission for resetting or acknowledging the permission for resetting.
- vi) The Acknowledgement Button is functioning in two ways one for re-setting permission received from other station and simultaneously giving indication to the DY SS/SM for pressing the re-setting button to normalise IB Axle counter thus reset button should only be operated after the green indication lamp as para- 5 above.
- vii) Once any push button has been unsealed and resetting operation has been done the sectional ESM should be informed of the same immediately.

- viii) It shall be the responsibility of the Dy.SS/SM to ensure that nobody interferes with the panel un-authorisedly.
- Q) SPECIAL INSTRUCTION IN CASE OF A TRAIN PASSING IBH AT 'ON' POSITION:**
- i) In case train run away indication appears the Dy.SS/SM/Cabin Master receiving Station shall not turn the block instrument handle to line clear position and Cabin Master/ Dy.SS/SM at sending station shall not take any action to despatch the third train unless the second train which passed the IB signal in the 'ON' position has actually arrived and its complete arrival is verified by the receiving station.
- ii) Every case of a train passing IB signal at 'ON' position without strictly following the provision of GR 3.75 should be treated as a breach of block rule by the driver and action to be taken accordingly.
- iii) When train run away indication appears at the Despatching Station/Cabin without any train in the section, the IBS system should be treated as failed and Signal Maintainer should be advised. All the subsequent trains shall be Piloted OUT after duly taking line clear treating entire section as one Block section as per GR 3.75(4).
- iv) When ever a train after having obtained line clear passes IBS (when not taken off) in "ON" position the train run away indication appears at the Despatching cabin and train entering section indication appears at the receiving cabin, under such circumstances no further train shall be allowed in the section till the said train arrives completely at the receiving station i.e., station in advance, and its complete arrival received at the receiving station i.e. station in rear supported by Private Number treating the entire block section as single section.
- v) If any train passes IB Signal at 'ON' position when there is a train in the Section between IBS and the station ahead, the train run away indication will appear at both receiving and Despatching station/cabin. Under such circumstances the Dy.SS/SM/Cabin Master in the receiving station shall not turn the Block instrument to Line Clear position and Dy.SS/SM/Cabin Master at sending station shall not take action to despatch the (3rd) train, unless the 2nd train which passes the IBS in the 'ON' position has actually arrived and its complete arrival is verified by the receiving station.
- vi) Permission button to be pressed for the run away train by break opening the seal only after verifying that the last vehicle of the run away train has arrived in tact and ensured by exchange of private number with the Dy.SS/SM of the sending station. In case of failure of Axle Counter equipment at the sending station, permission button may also be pressed for normalizing the system only after verifying that there is no train in the section and after duly exchanging Private number with the Dy.SS/SM of the sending station.

- vii) Whenever a train run away indication appears when there is a train in the section, no further train should be allowed in the section till resetting is done as per item No.30.3 above.
- viii) Before any re-setting operation is done, the Despatching station should advise the receiving station giving details of the last train that has entered the section and should ensure by exchanging of private number that the last train has arrived complete at receiving station.

Every Case of re-setting shall be entered in a register in the following proforma.

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

- ix) If resetting is not possible under item as mentioned above, the system should be treated as failed and train will work treating the entire section up to the Block Station immediately ahead of the IBS Post as one block section as per GR 3.75(4).
- x) Action to be taken when a train passes Intermediate Block Stop Signal at 'ON'
 - a) By Dy.SS/SM/Cabin Master of Block Station in advance of the Intermediate Block Stop signal
 - i) Shall not turn the Block Instrument commutator to "Line Closed" Position Unless the complete arrival of the train which passed IBS at "ON" position is ensured, without any exception even for such a train which leaves the rear station after obtaining line clear and passes IBS at "ON" position, since there is a chance of leaving a vehicle or vehicles in the Axle Counter area where the function of Axle Counter also fail when IBS is passed at "ON" position.
 - ii) In case the bottom needle of the SGE type block instrument is in its 'Line closed' position action should be taken to turn the block instrument comutator to 'TOL' Position vide BWM 5.16(2)(iv) and must not turn to "Line closed" and then to "Line clear" position unless the train which had passed the "Intermediate Block Stop Signal" in the 'ON' position arrives complete and its complete arrival is verified.
 - b) By the Dy.SS/SM/ASM/Cabin Master of Block Station in rear of the intermediate Block Stop Signal must ensure that last stop signal controlling entry of trains into the section between the last stop signal and the intermediate Block Stop Signal is in its 'ON' position and shall under no

circumstances take 'OFF' or attempt to take 'OFF' the said last Stop signal even if the Axle counter/Track circuit section from his block station up to and including the adequate distance beyond the Intermediate Block Stop signal shows 'clear' unless the train which had passed the intermediate Block Stop signal in the 'ON' position arrives complete the block station in advance and its complete arrival is verified, and intimate the Dy.SS/SM/ASM/Cabin Master of the block station in advance the number, description and the departure time of the last train Dispatched from his block station under exchange of Private number.

- c) By the Dy.SS/SM of both the block stations in rear and in advance of the intermediate Block Stop Signal.
 - i) After the complete arrival of the last train, according to the information received vide sub-para (b) above, the Dy.SS/SM of the block station in advance shall communicate the same to the Dy.SS/SM of the station in rear supported by a Private Number which shall be acknowledged by the later by issuing Private Number. Thereafter the Dy.SS/SM/Cabin Master of the despatching station and the Dy.SS/SM Cabin master of the receiving station shall operate the 'Resetting ' and 'reset' panel respectively in conjunction. This simultaneous operation will cause the 'counter' to 'reset panel' at the departure end cabin of the despatching station to illuminate then the Cabin Master shall operate the push button which in turn will record the next higher number in the counter at the cabin.
 - ii) The Dy.SS/SM of the Block Station in advance shall then take steps or authorised Cabin master of the receiving end cabin supported by a Private Number to normalise the block instrument.
 - iii) Record of Private Number exchange and the number shown in the counters shall be maintained by the concerning Dy.SS/SM and the Cabin Master in the train signal (Cum log) Register/Trine Log Register.

It is to be noted that in terms of GR3.75 whenever intermediate block stop; signal is at 'on' a driver must stop his train in rear of the signal and contact the Dy.SS/SM of the block Station in rear on the telephone provided on the signal post who will authorise him to pass the signal in 'ON' position supported by Private Number and identification number which were taken for the line clear from the station in advance. If the telephone is not provided or is out of order, the driver, after waiting for 5minutes shall pass it at "ON' but he must report the failure to the DY SS/SM at the Block Station ahead after following the provision in GR.3.75(3). This would mean that the driver shall either get an authority on telephone from the station master or must report at the station ahead about the failure of the telephone. If none of those provision are complied with, it should be taken as breach of Block Rules.

- R) a) In the event of failure of IBS signal in the “OFF” position or cannot resume to “ON” position immediately after it has been passed by a train, the station master controlling the signal shall take steps to put back the IBS signal to “ON” position and treat IBS signal failed and train shall be despatched treating entire section between his station and station in advance as one Block section.
- b) In the event of failure of IBS signal No. “X” on down line, the same signal shall be treated as gate signal at L.C Gate 811/8 failed accordingly a caution order shall be given to all trains to stop at 30 meters and obey the signals exhibited from the gate man or ensure the closure of gate against road traffic and shall proceed giving continuous whistles.

S) RUNNING OF MOTOR TROLLYS ON IBS ZONE:

- a) i) While allowing motor trolley/4 wheeler tower wagon/material trolley etc., entire section between VZM-KUK/VZM-NML shall be treated as one block section and shall be issued T/369(3b) for passing IBS at “ON” position.
- ii) After the complete arrival of the said Motor Trolley/4 wheeler tower wagon/material trolley etc., at the station ahead, Station Master at adjacent station shall exchange Private Number in token of complete arrival and then shall resume normal working by resetting the Axle Counter as stated in the SWR.
- iii) Motor Trollys shall not be allowed on following line clear.

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

SIGNAL POST TELEPHONE:

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

2) BLOCK RELEASE:

- a) The block instruments are restored to normal (Line Closed condition) only after the complete arrival of the train past the block over lap a head of the respective Home signal on either side of the VZM yard.
- b) Failure to turn the commutator of DLBI at the receiving station to “Train on Line” position as soon as the train has entered the block section may result in the failure of the block working.

- c) It is possible to restore the last stop signal of station in rear to “ON” position by receiving station by turning the commutator of DLBI “Train on Line” position in case of emergency.
- d) All the powers of the signaling installations in the Vizianagaram yard are centrally controlled from the Route Relay Cabin and it is explicit in this arrangement that the complete arrival of a train into the yard from the block section can not be vouched by the operating personnel in the centrally located Route Relay Cabin and in order to ensure complete arrival of the incoming train, Axle Counters are provided between VZM-GTLM, VZM-NML and VZM-KUK. Thus the Axle Counters provided at the end of the Block Overlap ahead of the signal to ensure complete arrival of the incoming trains.
- e) In the event of failure of Axle Counter block working of the section concerned is to be suspended. Line clear Station Master shall not normalise the commutator of the concerned block instrument to “Line Close” position and shall not Dispatch “Train out of the block section” report to the station in rear until he is satisfied by seeing the last vehicle indicator on the last vehicle of the incoming train (after arrival) of which Axle Counters failed or obtaining the complete arrival certificate from the Guard of the train.
- f) After satisfying as above, line clear Station Master should obtain permission of Station Master in rear concerned as the case may be for resetting the Axle Counter. The button of the Axle Counter reset unit should be pressed and released the same after “Permission granted” indication in Yellow appears in the reset unit. At the same time “Permission Received” indication in yellow appears on the reset unit concerned in Route Relay Cabin/Vizianagaram. Line clear Station Master in Route Relay Cabin should, then unlock and press SM’s reset button on the reset unit concerned after which “Permission granted” indication on the reset unit of the station in rear and “Permission received” indication in Route Relay Cabin disappears and Axle Counter will be reset and “Axle Counter Section Clear” indication Green appears on the reset unit at Route Relay Cabin. Also the counter of the reset unit registers next higher number which should be recorded in Train Signaling Register. Number of the resetting counter of LVCD (Axle Counter) for each reset should be recorded in a separate counter register by the SM/RRI in addition to recording in TSR. The line clear Station Master may then normalize the commutator of the block instrument to “Line Closed Position” and Despatch “Train out of block section” report to the station in rear.
- g) In case the Axle Counter are not reset by above operation “Section Occupied” indication in Red will continue to appear on the reset unit concerned in Route Relay Cabin. On duty SE(S)/Route Relay Cabin should be promptly advised to rectify the Axle Counter failure.
- h) Until the failure of Axle Counter is rectified by signal staff the following procedure should be adopted to check the complete arrival of train and to

normalize the commutator of the block instrument concerned. During the failure of Axle Counters line clear Station Master should depute a senior points man with a Private Number book to the Guard of the train for checking and taking the “intact” of complete arrival of trains.

- i) When the failure of Axle Counter is rectified by the signal staff, Line Clear Station Master should reset the Axle Counter in co-operation with the Station Master in rear as explained in the foregoing paras. Then the points man in the goomty on being unlocked and advised by Line Clear Station Master should extract the key from RKT2 by pressing the push button and insert in RKT1 and operate the same. Then the steady Yellow indication on the right side of LVVYN button on the control panel starts flashing. The Panel Station Master should withdraw the control by pressing LVVYN button concerned and GSRB button. Simultaneously Line Clear Station Master should also press the acknowledgement button. Then the flashing indication ceases steady yellow indication on the left side appears indicating that the Axle Counter is reset and normal working is resumed.

NOTE:- The same procedure to be adopted for Motor trolleys working in case of Axle Counter failure.

44 **LAST VEHICLE VERIFICATION (LVV) BY BLOCK PROVING THROUGH AXLE COUNTER:**

Electronic Axle Counters have been provided between IB Home and first stop signal of receiving stations between VZM-NML and VZM-KUK sections on UP and DN lines. Similar device has been provided between Last stop signal of sending station and first stop signal of receiving station in VZM-GTLM section on UP and Dn lines. Complete arrival of trains at respective stations is proved by these devices (BPAC). The status of the block section i.e. occupied or clear is indicated by the indications provided on the operating panel and on reset box. IB Home/ LSS (as the case may be) is controlled by the clearance of the LV axle counter section (BPAC).

Clearance of LV Axle counter section is proved in the respective Block Control cct. as well as in Block release cct. In case of failure of LV Axle Counter Line Clear can not be granted through Block Instrument. Also in case of such failures on arrival of train Block instrument can not be normalized.

Whenever, even after complete arrival of a train, the concerned section show occupied, on duty SS/Dy.SS shall adopt procedure for resetting of the LVV axle counter after ascertaining complete arrival of the train.

Before resorting to the resetting of the LV axle counter (BPAC) SS/Dy. SS of the receiving station shall ensure complete arrival of train by means of, physical verification and as per the practice in vogue by deputing concerned operating official.

One reset box for each LV axle counter (BPAC) has been provided in the panel room. There are three indications on the reset box i.e Red, Yellow and Green. The

clearance or occupation of the block section is proved by the Green or Red indications respectively as on the panel. Yellow indication, which is called PPR indication, proves that resetting operation has been initiated. One reset key and one reset button are also provided on the reset box for resetting. After complete train arrival is ascertained SS/Dy.SS on duty at receiving end shall confirm the same to the dispatching end SS/Dy.SS supported by a PN and shall request for preparatory resetting of axle counter. SS/Dy.SS on duty at both end shall adopt the following procedure simultaneously.

SS/Dy.SS on duty at both end shall press the reset button, then turn and press the reset key, then first release the reset button and then release the reset key. After appear on the reset box and both ends of the station PPR indication (yellow) will appear on the reset box and one number will increase in the reset counter which is provided on the reset box at both stations. SS/ Dy.SS shall record the counter number in the A/c reset register with reason for resetting.

When ever LV axle counter (BPAC) fails first train has to be piloted out after completion of the resetting procedure. On arrival of the first piloted train, the LV axle Counter section will show clear automatically by indicating Green on Reset panel and on operating panel.

Even after above resetting procedure, if the section is not shown clear, on duty SS/Dy.SS shall inform concerned S&T staff immediately- Till such time the system is rectified, the absolute block working shall be suspended and the trains shall be worked as per relevant para of G.SR & BWM.

All reset keys shall be kept in the personal custody of SS/ Dy.SS on duty.

45 WORKING AND RESETTING OF AXLE COUNTER PROVIDED IN THE YARD.

At certain places in the yard Axle Counters have been provided to prove whether that portion of the track is clear or occupied. The position of Axle counters have been indicated in the WRD.

Axle counters are fitted at the entry and exit point on Up and Down line on Main line and Up and Down on RV line and line connected to shunting neck as 1AXT, 2AXT, 3AXT, 4AXT and 5AXT respectively. When the Axle Counter zone is clear of vehicles, axle counter will show clear indication (i.e Green indication) provided on operating panel at the RR!. In case of occupation of axle counter zone RED indication will appear on the operating panel.

In the event of failure of axle counter the following procedure is to be adopted for resetting. Before adopting resetting procedure SS/Dy.SS shall ascertain the clearance/ occupation of the Axle Counter Zone by physical verification by deputing operating official.

Axle counter verification button is provided at the site to be operated by nominated operating staff. After physical verification of the axle counter zone before resetting done by SS/ Dy. SS, he should exchange the private number with the operating staff who will verify the axle counter zone.

Axle counter reset is provided in the operating panel to facilitate resetting of axle counter in case of failure. Three indications i.e. Green, white and Red are provided on operating panel. When axle counter shows RED after passing of the train over axle counter zone, the SS on duty gets RED indication along with buzzer in control panel. Buzzer muting button to be pressed to stop the buzzer and he should verify through the other operating official the clearance of train in axle counter zone physically. After verification, the SS On duty should exchange PN with the operating officials who has verified the site from the place where line verification button is provided.

Yellow indication appears on the panel after verifying button is pressed at the site. After exchanging PN, the SS/ Dy.SS on duty insert the common reset key and presses. The Green indication will appear on the panel and the axle counter zone will get clear. The action of the above will increment one number in veeder counter Provided on panel for resetting of respective axle counter zones. The number shall be recorded in the veeder counter register by on duty SS/Dy. SS.

All reset keys shall be kept in the personal custody of SS/ Dy.SS on duty.

46. **WORKING OF MOTOR TROLLYES IN THE EVENT OF FAILURE OF AXLE COUNTER:**

The Procedure detailed above in Para No.43.0[2] [e] onwards shall be followed.

**APPENDIX-‘C’ TO STATION WORKING RULES OF VIZIANAGARAM
STATION**

i) **Anti-collision Device (Raksha – Kavach)**

No such device is provided at the station.

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

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

CHIEF STATION MANAGER(SUPERVISORY)

He is in charge of Vizianagaram station. As an in charge of the station, he shall go through the station working rules and working rule diagram and get himself conversant with the detailed working of station and panel, points and signals etc. He is also responsible to explain to the staff, the station working rules along with connected rules of G&SR and other relevant rules of chapter XX of operating manual. He shall also responsible to see that.

- a) Staff while on duty wear proper uniform.
- b) The staff are civil and helpful to all rail users and passengers
- c) All staff shall follow the rosters issued by DPO|WAT from time to time.
- d) He shall conduct inspection at station, cabin and bring out lapses of staff if any to the notice of higher authorities
- e) All transportation records are checked daily and ensure proper utilisation of wagons placed in sidings and to ensure improvement in mobilising of rolling stock if any.
- f) All safety records are maintained properly and identify the lapses if any and take an appropriate action as a correcting measure,
- g) All rules prescribed in G.SR, Block working manual and other relevant directions issued from time to time by competent authorities are followed rigidly by all concern and any irregularities noticed are reported promptly to the authorities concerned
- h) All accidents are promptly reported, attended to and a comprehensive report along with details i.e sketches, statements of staff involved and fixing responsibility is sent to SR.DSO/SR.DOM within 48 hours of occurrence.
- i) Station premises are kept clean and tidy
- j) All equipment apparatus and instruments including signal and interlocking gears and fittings are kept clean and failures are promptly reported to staff concern for repairs, notice and action
- k) The BWM 2.09(e) is complied with daily. He is completely responsible for the total function of system at station and ensure smooth flow of traffic with least possible detention.

- l) That all station earnings, periodical returns and statement etc. are sent in time by staff responsible for them. The chief station manager will check all the station records [both operating and commercial and at RRI and report the lapses and take prompt action where necessary. He will submit periodical inspection reports.

2.0 **STATION SUPERINTENDENT (PANEL)**

He is responsible for operation of panel board for reception / dispatch of trains and for shunting operations etc. He is also responsible to authorise the respective end DY.SS for grating line clear to trains . He shall maintain train signal register properly. He shall speak to SCR on duty and plan the passing of trains and report arrival and departure report . He shall be responsible for protection of a running line when one is blocked by any means. He shall be responsible for transmitting crank handles and maintenance of corresponding registers including signal failure register properly. In general he is responsible to ensure safe passage of trains without undue detention. In the event of failure of points/signals he shall depute concerned DY.SS/SM for physical ensuring of correct setting, clamping and padlocking of points before train is piloted. He is responsible for the entire yard work during the duty hours such as drawn out and placements with train Engines, for loading and unloading of parcels and for shunting on coaching trains, to be completed within the prescribed time. He shall be conversant with the rules enumerated in G&SR chapter II and relevant rules from BWM and OM. He is responsible for smooth and efficient working of the station and public amenities in absence of Chief Station Manager. He is also required to attend in the event of failure of interlocking in lieu of ensuring safe operation. He shall be responsible for train ordering calling running staff arranging relief and interposing of powers etc. All the staff shall follow the rosters issued by Sr.DPO. – WAT from time to time

Dy. STATION SUPERINTENDENT [LINE CLEAR]:

For line clear operations two Dy.SSs in each shift is posted for working line clear duties. In consultation with SS RRI supported by private number. He shall maintain log book on TSR. He shall ensure closer of L.C. Gates when required for taking of signals or for granting line clear or for shunting operations as the case may be. He shall exchange signals with train crew and guard and ensure complete arrivals before closing of Block sections. He shall also watch the panel board operated by SS whether functioning properly.

The Dy.SS. [Line clear] posted at RRI Cabin VZM is responsible for the following and work under the supervision and orders of the SS/RRI.

- a) Obtaining and granting line clear in accordance with general and subsidiary rules, block working manual and Station working rules of the VZM Station.

- b) He should operate lock and block Double line block instrument installed in the RRI Cabin.
- c) He should maintain all train passing and safe working records such as station Master's dairy, train signalling register, block ticket, pilot memo, starting order, paper line clear ticket etc.
- d) He should report defects or deficiencies if any in block instrument to the concerned Signal & Telecommunication Staff for speedy repairs.
- e) He is responsible for safe custody of the keys, Block Instrument and shall not permit unauthorised person to enter in to the cabin or operate or interfere with lock and block instruments.

TRAFFIC POINTS MAN :

He shall work under the orders SS/Dy.SS on duty. He shall couple and uncouple vehicles under the supervision of SS/Dy.SS Guard or any other person deputed vide SR 5.13.03. He shall operate ground lever/levers clamp and padlock the necessary points for shunting operations. He shall watch and guard the packages and other Railway property lying in the Station premises. He shall be thorough in displaying hand signals. He shall report any irregularities coming to his notice. He shall do loading and unloading of Guard's boxes. He shall do piloting IN and OUT. He shall deliver any official message to the proper person/office. He shall carry out any other duties entrusted to him by the Station Master on duty. He will lit the BLSB lamp during night.

SAFAIWALA

He shall attend to the sanitation of the RRI building including SS's Office. He shall clean and fill with oil in the hand signal lamps and other lights. He shall carry out any other work entrusted to him by the Station Master on duty.

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

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

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

Sl.No	Description	Station
1	Detonators	20
2	Hand Signal lamps	8(1 Spare)
3	Hand Signal Flags	8(1 Spare)
4	Skids	4
5	Clamps with Padlocks	20
6	Safety chains with Pad locks	12
7	Fire & Sand buckets	5
8	Minimax Fire Extinguishers DCPT	2
9	Reminder collars	6
10	First Aid Box	1
11	Stretcher	1
12	Blanket	1

APPENDIX “F” TO STATION WORKING RULES OF VIZIANAGARAM STATION

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

1.1 WORKING OF DK STATION NIL

1.2 WORKING OF HALTS NIL

1.3 WORKING OF IBH/IBS : (GR 3.75 & SR there to)

- i) Intermediate block stop signals are provided between two stations on a block section splitting it into two block sections to facilitate accommodating two trains in the block section with a view to enhancing the section capacity and are worked under the principles of “ABSOLUTE BLOCK SYSTEM” of working.
- ii) a) The section between VZM station and KUK station has been split in to two block sections by providing intermediate block stop signals. An intermediate block stop signal on up line is provided of Km 822.935 and on down line at Km 823.775
- b) The section between VZM station and NML station is also split into block sections by providing inter mediate block stop signal. IBS on upline at KM 810.738. Downline at KM 811.578.
- iii) The section between the last stop signal and 400 M beyond IBS signal constitutes one section and the section from IBS signal to first stop signal plus adequate distance of the station in advance constitutes the second section.
- iv) a) The section from last stop signal of the station and 400 M beyond IBS signals is controlled by electronic axle counters at the entry and exit points and the section from IBS signals to the first stop signal plus adequate distance is controlled by lock & block instruments, so that no train can be allowed in to the respective sections unless the section is clear of all trains vide GR 3.11, 14.01 to 14.14 with SR there to & BWM CP-V.
- b) The clearance/occupation is indicated in the cabin/station on the panel through illuminated light. Details at Appendix ‘B’.
- c) Signal Post phone connecting SM of the station who controls IBS signal are provided for Driver to speak with SM in case of urgency.
- v) **PANEL AT STATION & CABIN**

The IBS signals is controlled by the dispatching station and interlocked with the lock and block instrument of the section concerned.

A small mimic indication panels are installed at the station and in the cabins (where

end cabin working is in force) to indicate the occupation (RED LIGHT) and CLEAR (WHITE LIGHT) of the sections between last stop signal and IBS signal and between IBS signal and the first stop signal plus adequate distance of the station in advance.

vi) **PROCEDURE FOR DESPATCHING A TRAIN IN TO THE BLOCK SECTION**

i) When the section between last stop signal (Advanced starter) and 400 M beyond IBS signal is clear and clear indication is available on the panel the Station Master of the dispatching stations shall advise the trailing end Cabin Master (with end cabin working) to set the out going route giving the train number description and the line from which train shall start and pull the concerned last stop signal control slide.

The trailing end Cabin Master after duly observing the procedure for dispatch of trains as given in the SWR and on observing the last stop signal slot in 'OFF' condition and the clear indication on the panel shall take 'OFF' the last stop signal (Advanced Starter).

He shall also inform the station in advance the train number and description of the train allowed up to IBS signal and obtain a private number to the effect that SM of advance station is aware of a train allowed upto the IBS.

ii) **For Section IBS signal to station in Advance**

The Station Master onduty confirming through Cabin Master that the section between 400 M beyond IBS signal and the first stop signal plus adequate distance is clear and clear indication is available on the panel, lock & block instrument is in "line closed condition" (with end cabin working) shall advise the Cabin Master to obtain line clear for the train waiting at IBS signal and take 'OFF' the IBS signal on getting line clear. These instructions shall be supported by a private number.

The Cabin Master after receiving permission from the Station Master for obtaining line clear shall obtain line clear and take 'OFF' the Intermediate stop signal of the section concerned.

When the train with its last vehicle passed the IBS signal and 400 M beyond the IBS a buzzer will ring in the dispatching cabin. The Cabin Master on hearing the buzzer shall send train entering block section report to the Station in advance. Detailed procedure given as Appendix 'B' shall be followed.

vii) **FAILURE OF IBS SIGNAL**

Whenever axle counters of the section between last stop signal & IBS signal failed and/or during the failure of IBS signal the procedure detailed in GR 3.75 with SR there to and the procedure given at Appendix 'B' shall followed strictly. Before allowing a train in to affected section the dispatching Station Master must ensure that the last train in the section between the two stations has arrived complete at the

station in advance with its last vehicle indicator supported by a private number from the SM of station in advance.

However the last stop signal & IBS signal shall not be taken 'OFF' but a written authority on Form T/369/3(b) shall be issued to pass the these signal as 'ON'.

L&B working of the section concerned shall be suspended till the normal working is resumed after rectification.

Te procedure of resetting axle counters is given in the Appendix 'B' which shall be followed strictly.

Note : Backing of trains in the IBS signal section is prohibited. However if it is unavoidable the procedure given at GR 3.75 with SR there to shall be followed.

viii) TRAIN PASSING IBS SIGNAL AT 'ON'

When a train passes IBS signal as 'ON' with out obtaining permission from the Station Master of the station controlling the IBS signal it should treated as an accident. Such train shall not be admitted on signals at the station in advance but shall be piloted 'IN' on for T/369/3(b) clearly mentioning the circumstances. The procedure of dealing with an accident train shall be followed there after.

ix) OUT – LYING SIDINGS

NIL

APPENDIX – ‘G’**STATION WORKING RULES FOR 25 KVA.C. ELECTRIC TRACTION
VIZIANAGARAM STATION****1. GENERAL & SUBSIDIARY RULES:**

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

2. GENERAL SAFETY PRECAUTIONS:

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

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

- i) A Diagram No. Dy.CEE/C/VSKP/SWR/05/05 indicating schematically the lines which have been equipped with for Electric traction is exhibited. The diagram also indicates different electrical stations (Sectors, Sub-Sectors or Elementary sections) the Controlling Switches (Isolator Switches or Interrupters) Insulated Overlaps and Section Insulators where the overhead equipment is electrically separated. The limits of an Electrical section (Sub-Sector or Elementary Section) and are indicated by relevant section. A copy of this diagram is also enclosed with these special working rules and will form part of the same.
- ii) For all purposes connected with train movements and power blocks, this diagram is the only authorized document to be referred to. The normal position of various switches is indicated on the diagram.

4.0 UNWIRED TRACKS:

No electric locomotive with pantograph raised shall under any circumstances be taken to an un-wired section. AH levers in cabins giving access to un-wired lines have a special distinguishing paint mark warning the lever man against setting the unwired line for Electric locos.

5. OPERATION OF SWITCHES.

- i) All switching operations shall be carried out in accordance with the instructions of the Traction Power Controller except in respect of Switching operations for local blocks, which may be carried out by authorized traction staff, after they have been granted local block by the Station Master or Assistant Station Master in accordance with SR 17.04.09 and ACTM 20600,20601, Vol.II, Pt.I.
- ii) In case of emergency, authorized and trained station staff may open Isolator Switches under specific instructions of the Traction Power Controller (SR 17.04, 14B)

6. POSITION OF SWITCH HANDLES:

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

7. LOCATION OF KEYS OF SWITCHES:

The keys for the padlocks of various isolator switches are kept in the ASMs Office in a box with a glass-mounted cover (SR 17.04-13). The Station Master shall daily check the locks on switches within the station limits and report any defect or deficiency to the Traction Power Controller.

8. PROCEDURE AND PRECAUTIONS FOR OPERATING ISOLATORS:

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

Isolator switches may be opened only after ensuring: -

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

9. POWER BLOCKS:

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

10.0 PROTECTION AT THE TIME OF POWER BLOCK:

- i) All sections over which a power block has been granted shall be protected against the entry of Electric Locomotives with pantograph raised from either end during the period (SR 17-04) and ACTM 20620, 20621 to 20627 Vol.II, Pt.I strict enforcement of longitudinal and transverse, protection as per the Annexure attached shall be ensured before imposing power block. If there is / are locomotive on the section over which the power block to be given, the Driver of such, locomotives shall be given a memo by the Station Master on duty or authorized Traction staff to lower the pantograph and not to raise it until further instructions and an acknowledgement shall be obtained. The drivers shall not be given instructions to raise the pantograph still the power block is cancelled.
- ii) Station master or station staff conducting shunting operation with electric locomotive will ensure that under no circumstances any electric locomotive approaches near the traction structure limiting electrical sections power with the power block -may be granted. Limits of each electrical section at a station are shown in the station-sectioning diagram.

11. SECTION INSULATORS:

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

12. BREAK DOWNS OF TRACTION OVER HEAD EQUIPMENTS:

All the break downs or defects noted or reported on the Traction Overhead Equipment or any other traction equipment including bonding, shall immediately be reported to the Traction Power Controllers (SR 17.03.02) ACTM 20605 Vol. II Pt.I Necessary caution order should be issued to the Driver concerned as directed by the Traction Power Controller observing the existing rules regarding issue of Caution Orders.

13. REGISTER OF MESSAGES:

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

14. STEAM OR DIESEL ENGINES:

In a section where only Power Block has been granted movement of traffic other than electrically hauled, may be permitted except the specifically prohibited and the lines are also blocked as per rules, the traffic allowed shall however, have to observe the Engineering Signals exhibited. Movement of Steam or Diesel Locomotive on Electrified Section shall be subject to the restrictions given in A.C. Traction Manual. Such Steam or Diesel Engine or train hauled by such engines shall be brought to engine or train hauled by such engines shall be brought to stand at the station proceeding the Station / Section at which power block is granted and Station Master or this station shall satisfy himself by personal inspection that there is no electric locomotive on the train in question. He shall also give a Caution Order, to the Driver and such engine or train, warning him of the power block of instructing him to watch for Engineering Signals and stop at a particular signal or a particular traction structure as necessary.

No Station Master shall give 'Line Clear' or take off signals for a train to run over a section under power block unless he has received an assurance from the Station Master on the train (Supported by a Private No.) (ACTM 20626 & 20627 Vol.II Pt.I)

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

15. ELECTRIC LOCOMOTIVE:

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

16. STEAM CRANES

No steam engine and crane shall be worked on or adjacent to Traction over head equipment unless such over head equipment is dead and earthed (SR 393 (5) (a). (b) & (c) ACTM 10406 Vol.I.

17. LAMPMAN

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

18. WORK ON LOOP OF ROLLING STOCK:

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

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

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

20.0 TELECOMMUNICATION CIRCUITS:

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

21. ELECTRIC SHOCK:

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

22. FIRE:

Regarding Fire on or adjacent to any Electrical equipment refer G & SR 10(2)

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

24. AMENDMENTS FOR SUPPLEMENTARY CORRECTION SLIPS:

Any amendment to these working rules or any of the Annexure will be notified by Correction slip to the Station Working Rules. All corrections to the Station Working rules shall on receipt be immediately carried out in the Receiptants copies. The correction slips will be serially numbered and it will be the responsibility of each member of the staff to whom working rules are supplied to call for the missing correction slips and bring the contents thereof to the notice of all staff concerned and take their acknowledgement.

25. CONTINUOUS WATCH BY INSPECTING STAFF:

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

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

EAST COAST RAILWAY

WALTAIR DIVISION

APPENDIX- 'G'

TO SWR OF

VIZIANAGARAM

STATION

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

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

2. GENERAL SAFETY PRECAUTIONS :

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

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

- i) A Diagram No. WAT/TRD/SWR/237/12 indicating schematically the lines which have been equipped with for Electric traction is exhibited. The diagram also indicates different electrical stations (Sectors, Sub-Sectors or Elementary sections) the Controlling Switches (Isolator Switches or Interrupters) Insulated Over laps and Section Insulators where the over head equipment is electrically separated. The limits of an Electrical section (Sub-Sector or Elementary Section) and are indicated by relevant section. A copy of this diagram is also enclosed with these special working rules and will form part of the same.
- ii) For all purposes connected with train movements and power blocks, this diagram is the only authorized document to be referred to. The normal position of various switches is indicated on the diagram.

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

5. OPERATION OF SWITCHES :

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

Sl. No.	Isolator No.	Loc. No.	Sl. No.	Isolator No.	Loc. No.	Sl. No.	Isolator No.	Loc. No.
1.	SM-110	818/29	7	SM-108	818/22-24 Isolator gantry	13	SS-208P	817/27
2	SM-111	818/22	8	SM-109		14	SS-208Q	817/29
3	SM-112	817/31	9	SS-202		15	SS-344	VZM/1112A
4	SM-113	817/12	10	SS-203		16	SS-345	VZM/3042
5	SM-113 A	817/25	11	ss-204		17		
6	SS-207	817/30	12	SS-207A	VZM/1006	18		

6. POSITION OF SWITCH HANDLES :

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

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

8. PROCEDURE AND PRECAUTIONS FOR OPERATING ISOLATORS :

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

Isolator switches may be opened only after ensuring : -

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

9. POWER BLOCKS :

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

10. PROTECTION AT THE TIME OF POWER BLOCK :

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

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

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

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

14. MOVEMENT OF OTHER THAN ELECTRIC TRAINS

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

(a) This has not been prohibited specifically in the power block message.

(b) Other than Electric trains hauled by such engines shall be brought to a stand at the station preceding the station/section at which power block is granted and the Station Master or this station shall satisfy himself by personal inspection that there is no electric locomotive in the train.

(c) He shall also give a Caution Order to the Loco Pilot of such engine or train, warning him of the power block ahead and instructing him to watch for hand signals and observe them.

(d) No Station Master shall give line clear or lower signals for a train to run over a section under power block unless he has received an assurance (supported by Private Number) from the Station Master of the preceding station that there is no electric locomotive or Inspection Car with pantograph raised in the train. (ACTM 20627 Vol.II Pt.I.)

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

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

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

17. WORK ON ROOF OF ROLLING STOCK :

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

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

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

19. TELECOMMUNICATION CIRCUITS :

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

20. ELECTRIC SHOCK :

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

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

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

23. AMENDMENTS FOR SUPPLEMENTARY CORRECTION SLIPS :

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

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

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

OPERATING STATION WORKING ON A.C. TRACTION AREA.

DO(s) AND DON'T(s)

A) FOR ALL STAFF :

(a) DO(s) :

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

(b) DON'T(s) :

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

B. FOR RUNNING STAFF :

(A) DO(s)

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

(B) DON'T (s) :

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

C) FOR STATION MASTER :

(A) DO (s) :

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

(B) DON'T (s) :

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

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

.DOM/G/WAT

SR.DEE/TRD/WAT

ANNEXURE TO APPENDIX 'G'

Station Working Rules for VIZIANAGARAM for 25 KV AC Traction

These Rules are to be read along with existing Station Working Rules and Annexures

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

Sl. No.	Description of Electrified Section	Steps for precautions to be taken during Power Block in respect of Electric Locos Hauling Trains or running Light or Standing with Pantograph raised		Sequence of Switching Operation for granting Power Block	Sequence of Switching Operation for restoring Power
		Longitudinal Protection	Transverse Protection		
1	2	3	4	5	6
A) 1	<u>SECTOR</u> 1) Sector between Vizianagaram/FS to Kottavalasa/SP Section on both Up & Dn Lines. (E/S8301,8303,8101,8103,7701,7703,7705,8202,8204, 8002,8004,7802,7804 and 7806)	Movement of Electric Trains / Electric Locos shall not be permitted into section Vizianagaram - Kottavalasa on both Up & Dn Lines.	Nil	1)Ensure BM-69 is in open position at Kottavalasa /SP. 2) Ensure SM/218 at Loc. 846/28/1 on Kantakapalli -Kottavalasa Section is in open position 3)Open BM-82 & 83 at Vizianagaram FS.	1)Close BM-82&83 at Vizianagaram FP
2	2) Vizianagaram/FS to Garividi/SP (E/S 8402,8404,8406,9002,9004,9006 and 8501,8503,8505,9101,9103,9105,X-211 andX-211A including Vizianagaram/yard &Vizianagaram-Gotlam Section)	Movement of Electric Trains / Electric Locos shall not be permitted into section Vizianagaram - Nellimarla &Vizianagaram-Gotlam section on both Up & Dn Lines.	Nil	1)Ensure BM-95 & 94 at Garividi /SP are in open position. 2)Open BM-84&85 at Vizianagaram FS.	1)Close BM-84&85 at Vizianagaram FS

SR.DOM/G/ WAT

SR.DEE/TRD/WAT

1	2	3	4	5	6
B)	<u>SUB-SECTOR</u>				
3.	1) Up Sub-Sector between Vizianagaram/FS to Korukonda/SSP on UP line Korukonda Yard (Up Main & Up Loop) (E/S 8301, 8303	1)Line clear shall not be obtained from Korukonda for trains on Up Line. 2) Concerned despatch signals shall be kept at "ON".	Nil	1)Open BM-83 at Vizianagaram FS. 2)Open BM 81 at Korukonda/SSP	1)Close BM-83 at Vizianagaram FS. 2)Close BM-81 at Korukonda/SSP.
4.	2) Dn Sub-sector between Vizianagaram/FS Korukonda/SSP section including Dn Main & C-Loop at KUK Yard on DN line (E/S 8202, 8204)	1)Line clear shall not be granted to Korukonda for trains on Dn Line. 2) Dn reception signals shall be kept at "ON".	Nil	1)Open BM-82 at Vizianagaram FS. 2)Open BM-80 at Korukonda/SSP.	1)Close BM-82 at Vizianagaram FS. 2)Close BM-80 at Korukonda/SSP.
5.	3) Dn Sub-sector between Vizianagaram/FS to -Nellamarla/SSP Section including Dn Main and L-5 at Vizianagaram Yard. (E/S 8402, 8404 and 8406)	1) Line clear shall not be granted to Korukonda 2) Line clear shall not be obtained from NML for trains on Dn.line. 2) Necessary Dn despatch signals shall be kept at "ON".	1) Points 154 A&B, 152A&B, 153A&B, 145A&B 135A&B, 15A&B, 112A&B, 113A&B 114 shall be kept in normal position only.	1) Close SM-109 at Vizianagaram Yard Gantry. 2). Open SM-108 at Vizianagaram Yard Gantry. 3) Open BM-84 at Vizianagaram FS 4) Open BM-90 at Nellimarla/SSP.	1) Close BM-90 at Nellimarla/SSP. 2) Close BM-84 at Vizianagaram FS 3)Close SM-108 at Vizianagaram Yard Gantry. 4). Open SM-109 at Vizianagaram Yard Gantry.

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6.	4) UP Sub-sector between Vizianagaram/FS to Nellimarla/SSP Section including Up Main & Up Loop L-1 & L-2 at Vizianagaram Yard. (E/S 8501, 8503, 8505)	1)Line clear shall not be obtained from Korukonda 2) Line clear shall not be granted to Nellimarla for trains on Up Line. 2) Necessary Up reception & Despatch signals shall be kept at "ON".	1) Points No. 112A&B,11 5A&B, 145A&B,15 2A&B, 154A&B shall be kept in normal position.	1)Open BM-85 at Vizianagaram FS. 2) Open BM-91 at Nellimarla/SSP.	1)Close BM-85 at Vizianagaram FS. 2)Close BM-91 at Nellimarla/SSP..
C)	<u>ELEMENTARY SECTIONS</u>				
7.	1) E/S 8301 between Vizianagaram/FS to SM-106 at location No.828/19 of Korukonda yard on Up Line section.	1) Line clear shall not be obtained from Korukonda for Up Trains. 2) Up Electric Trains shall not be despatched to Korukonda on Up Line. 3) Up despatch signals shall be kept at "ON".	Nil	1) Open BM-83 at Vizianagaram FS. 2) Open BM-81 at Korukonda SSP. 3)Open SM-106 at location No.828/19 of Korukonda Station. 4)Close BM/81 at Korukonda SSP.	1) Close BM-83 at Vizianagaram FS. 1) Close SM-106 at location No.828/19 of Korukonda station
8.	2) E/S 8501 between Vizianagaram/FS to SM-110 at location No.818/29 of Vizianagaram yard on Up Line.	1) Line clear shall not be obtained from Korukonda for trains on Up Line. 2) Electric Trains shall not be dispatched from Vizianagaram yard to Korukonda on UP line. 3) Shunting movement is prohibited on south end of the yard on UP lines. 4) Necessary signals shall be kept at 'ON'.	1) Points No. 133A&B, 145A&B, 152A&B, 154A&B shall be kept in normal position.	1)Ensure SM-109 is in open position. 2)Open BM-85 at Vizianagaram FS. 3)Open BM-91 at Nellimarla/SSP SSP. 4)Open SM-110 at location No. 818/29 of Vizianagaram yard 5) Close BM-91 at NML SSP.	1) Close BM-85 at Vizianagaram FS. 2) Close SM-110 at Location 818/29 Of Vizianagaram yard.

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9	3) E/S 8503 between SM-110 at location No.818/29 Vizianagaram yard to SM/112 at location No. 817/31 of Vizianagaram yard On Up Main, Up Loop % common loop ie. Line No.1,2&3 of Vizianagaram/ yard	1) Movement of electric train/loco shall not be permitted from either end of the Line No.1, 2 & 3. 2) Necessary reception/ dispatch by shunt signals of Line No.1,2 & 3 shall be kept at "ON".	1) Point Nos. 115 A&B and 133A&B shall be kept in normal Position.	1) Open BM-85 at Vizianagaram/F S. 2) Open BM-91 at Nellimarla/SSP. 3) Open SM-110 at Loc. 818/29 of Vizianagaram yard 4) Open SM-112 at Loc. 817/31 of Vizianagaram yard 5) Close BM-91 at Nellimarla/SSP. 6) Close BM-85 at Vizianagaram/F S.	1) Close SM-110 at Loc. 818/29 of Vizianagaram yard 2) Close SM-112 at Loc. 817/3 of Vizianagaram Yard.
10	4) UP E/S 8505 between SM-112 at location No.817/31 of Vizianagaram yard to Nellimarla/SSP on Up Line.	1) Line clear shall not be granted to Nellimarla for trains on Up line. 2) Shunting movement is prohibited on north end of the yard on UP lines 3) Necessary Up Reception & shunt signals shall be kept at "ON".	1) Point Nos. 112 A&B shall be kept in Normal Position.	1) Open BM-85 at Vizianagaram/F S. 2) Open BM-91 at Nellimarla SSP. 3) Open SM-112 at Loc. 817/31 of Vizianagaram	1) Close BM-91 at Nellimarla SSP. 2) Close SM-112 at Loc. 817/31 of Vizianagaram yard

				yard 4) Close BM-85 at Vizianagaram/F S.	
11	5) DN E/S 8202 between Vizianagaram/FS to SM-107 at location No.828/4 of Korukonda yard on Dn Line Vizianagaram- Korukonda section.	1) Line clear shall not be granted to Korukonda for Trains on DN line. 2) Shunting movement is prohibited on south end of the yard beyond 819/16 on DN lines 2) Concerned DN reception & shunt signals shall be kept at "ON".	Nil	1) Open BM-82 at Vizianagaram/F S. 2) Open BM-80 at Korukonda SSP. 3) Open SM- 107 at location No.828/4 of Korukonda Yard. 4) Close BM-80 at Korukonda/SS P.	1) Close BM-82 at Vizianagaram/F S 2) Close SM-107 at Location 828/4 Of Korukonda Yard.

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12	6) DN E/S 8402 between Vizianagaram/FS to SM-111 at location No.818/22 of Vizianagaram yard on Dn. Line. Vizianagaram Korukonda section and on Line No.5 of Vizianagaram yard.	1) Line clear shall not be granted to Korukonda for trains on DN line 2) Electric Trains shall not be received into yard on Dn Line to any line of the yard from Korukonda 3) No shunting shall be permitted on Dn Main & Line No. 5. 4) Movement of electric train/ loco prohibited on DN.line towards Korukonda from any line of the yard. 5) Dn.trains shall not be admitted on Line No.4. 6) Necessary reception, dispatch and shunt signals shall be kept at "ON"	1) Point Nos. 154A&B, 152A&B, 145A&B, 135A&B, 153A&B shall be in kept normal position. 2) Point No.123A&B shall be kept in reverse position.	1) Open BM-84 at Vizianagaram/F S. 2) Open BM-90 at Nellimarla/SSP. 3) Open SM-111 at Loc. 818/22. 4) Close SM-109 at Vizianagaram Gantry. 4) Open SM-108 at Vizianagaram Gantry. 5) Close BM-90 at Nellimarla/SSP.	1) Open BM-90 at Nellimarla/SSP 2) Close SM-111 at Loc. 818/22 of Vizianagaram yard. 3) Close SM-108 at Vizianagaram Gantry. 4) Open SM-109 at Vizianagaram Gantry. 5) Close BM-84 at Vizianagaram/F S 6) Close BM-90 at Nellimarla/SSP.
13	6) DN E/S 8404 between SM-111 at location No.818/22 to SM-113 at location No.817/12 of Vizianagaram yard. on Dn Main Line (L-4)	1) No train shall be admitted on Dn Main i.e. Line No. 4. 2) No shunt movement shall be permitted on Dn. Main (L-4). 3) No train shall be dispatched from L-5, 6, 7,8,9 towards Nellimarla and from L-1&2 towards Gotlam Side. 4) Necessary down reception & dispatch signals	1) Point Nos. 112A&B, 113A&B, 114, 115A&B shall be in normal position.	1) Open BM-84 at Vizianagaram/F S 2) Open BM-90 at Nellimarla/SSP. 3) Open SM-111 at Loc. 818/22. 4) Open SM-113 at Loc. 817/12.	1) Close SM-111 at Loc. 818/22 of Vizianagaram yard. 2) Close SM-113 at Loc. 817/12. Of Vizianagaram yard.

		shall be kept at "ON".		5) Close BM-84 at Vizianagaram/F S 6) Close BM-90 at Nellimarla/SSP.	
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14	7) DN E/S 8406 between SM-113 at location No.817/12 of Vizianagaram yard to Nellimarla/SSP on DN line ie. Vizianagaram-Nellimarla Section.	1) Line clear shall not be obtained from Nellimarla for trains on DN Line. 2) No shunting shall be permitted on Dn Line beyond structure No. 817/12 of north end of the yard towards Nellimarla. 3) Necessary despatch & shunt signals shall be kept at "ON".	Nil	1) Open BM-84 at Vizianagaram/F S. 2) Open BM-90 at Nellimarla/SSP. 3) Open SM/113 at Location 817/12 at Vizianagaram yard 4) Close BM-84 at Vizianagaram/F S.	1) Close BM-90 at Nellimarla/SSP. 2) Close SM/113 at Location 817/12 at Vizianagaram Yard.
15	8) E/S X-202 on Dn shunting neck and PQRS at south end of the yard.	1) No Electric train/ loco shall be permitted on Shunting neck & PQRS siding. 2) Trains shall not be received from Korukonda to L-8&9. 3) Shunting prohibited from L-6,7,8,9 on shunting neck & PQRS. 4) Necessary dispatch, reception & shunt signals shall be kept at "ON".	1) Point Nos. 153 A&B shall be kept in normal position	1) Ensure that no electric engine with its panto raised condition is in the elementary section X-202.ie.Shunting neck & PQRS siding 2) Open SS-202 at isolator gantry of Vizianagaram Yard 3) Close BM-84 at Vizianagaram/F S	1) Close SS-202 at isolator gantry of Vizianagaram Yard.
16	9) E/S X-203 on	1) No Electric train/	1) Point	1) Ensure that	1) Close SS-203

	Line Nos. 8. (E/S X-344 of Line No.9 goods siding also gets blocked)	loco shall be dispatched / admitted from /to line Nos. 8&9. 2) Shunting is prohibited on line Nos. 8&9 on either end of the lines.	Nos. 141, 125A&B, 126A&B & 129 shall be kept in normal position	no electric engine with its panto raised condition is in the elementary section X-203 ie. line Nos.- 8&9 2) Open SS- 203 at Isolator gantry at Vizianagaram Yard	at Isolator gantry at Vizianagaram Yard.
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17	10) E/S X-204 between SS-204 at Isolator gantry to SS/207 at location No.817/30 on Dn. Line of Vizianagaram Gotlam on Line Nos. 6&7. (E/S X-207 & X- 207A also gets blocked)	1) Movement of electric trains/ locos shall not be permitted on line Nos.6 & 7 on either end of the yard. 2) Electric movement prohibited towards shunting neck/PQRS siding at south end of the yard. 3) Electric trains/ loco shall not be dispatched from line No.5,8&9 towards Nellimarla/ Gotlam side and concerned dispatch signals shall be kept at 'ON'. 3) Necessary reception, despatch and shunt signals	1) Points 108A&B 113A&B, 123A&B, 125A&B 126A&B and 135A&B shall be kept in normal position.	1)Ensure that no electric engine with its panto raised condition is in the elementary section X-204 ie. line No.-6&7 2) Close SS- 208P at Loc. 817/27. 3) Open SS- 208Q at Loc. 817/29. 3) Open SS- 204 at Isolator gantry of Vizianagaram/y ard	1) Close SS- 208Q at Loc. 817/29. 2) Open SS- 208P at Loc. 817/27. 3) Open SS-204 at Isolator gantry of Vizianagaram/y ard

		of Line No.6 & 7 shall be kept at "ON".			
18	11) E/S X-207 on Down Line of Vizianagaram - Raipur line & on shunting neck of north end of the yard. (E/S X-207A also gets blocked)	1) Movement of electric train/loco prohibited on down line of Vizianagaram - Raipur line and on shunting neck of north end of the yard. 2) Electric trains/loco shall not be dispatched from line No.5,6,7,8&9 towards Nellimarla/Gotlam side and concerned dispatch signals shall be kept at 'ON'. 2) Necessary reception, dispatch & shunt signals shall be kept at "ON".	1) Point No. 101A&B, 104A&B, shall Be kept in Normal position.	1) Ensure that no electric engine with its panto raised condition is in the E/S X-207 on DN Raipur line 2) Open SS-207 at Location No.817/30 817/30.	1) Close SS-207 at Location No. 817/30.

1	2	3	4	5	6
19	12) E/S X-208 on Up Line of Vizianagaram - Raipur Line.	1) No electric movement is permitted on elementary section No. X-208. and concerned reception, dispatch & shunt signals shall be kept at "ON". 2) Electric trains/loco shall not be dispatched from line No.1 to 9 towards Gotlam side on Raipur UP line and concerned dispatch signals shall be kept at 'ON'.	1) Point Nos. 101A&B, 104A&B, 108A&B 113A&B and 114 shall be kept normal position.	1) Ensure that no electric engine with its panto raised condition is in the E/S X-208 of Raipur UP line 2) Ensure that SS-208P at location No.817/27 in open position. 4) Open SS-208Q at Loc. 817/30.	1) Close SS-208Q at Loc. 817/30.

20	13) E/S X-344 on Line No.9 Goods siding.	1) Movement of electric train/loco prohibited on line No. 9 (Goods siding). 2) Concerned dispatch/ reception signals shall be kept at "ON". 3) No shunting is permitted on both side of Line No.9	1) Crossover Point Nos. 129 & 140 shall be set against to entry of train movement.	1) Ensure that no electric engine with its panto raised condition is in the E/S X-344 of Goods siding 2) Open SS-344 at location No.VZM/1112A of Vizianagaram 3) Open SS-345 at location No.VZM/3042 of Vizianagaram	1) Closed SS-345. 2) Closed SS-344. Vizianagaram at
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NOTE: -

- 1) For any unusual movement of Electric locos, the Station Master on duty must refer to the working rule diagram from 25 kV AC traction of his station and ensured that there is no chance of energizing the section where power block has been granted.
- 2) Points leading to unwired tracks shall not be used for the movement of electric loco with pantograph raised.
- 3) Refer modified Drg. No.WAT/TRD/SWR/237/12

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