

EAST COAST RAILWAY
WALT AIR DIVISION

STATION WORKING RULES OF JAGDALPUR [BROAD GAUGE]

Date of Issue: -
Date brought in force:

Ref: Lr No: 2000/Safety (A&R)/19/36 of Rly. Board dated 27.10.05.

NOTE: -

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

1. STATION WORKING RULE DIAGRAM:

(i) The Station Working Rule diagram no: SI/WRD/23108

(ii) CSTE/East Coast Railway Signal Interlocking Plan No: SI/23108

(iii) Date up to which corrected:

2. DESCRIPTION OF STATION:

2.1 GENERAL : LOCATION:

a) Name of the station	:	JAGDALPUR
b) Class of station	:	'B' class
c) Section	:	Kottavalasa-Kirandul
d) Double line/Single line	:	Single line
e) Electrified/Non Electrified	:	Electrified
f) Gauge BG/MG/NG	:	BG
g) Railway	:	East Coast Railway
h) Route	:	'D' Special
i) Situated at	:	Km 295.784
j) Reckoned from	:	Kottavalasa
k) Number of cabins	:	Centrally operated Domino type full-fledged panel along with VDU.

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

Sl no	Adjacent Block-section	Distance	Direction
a	NAKTISEMERA (NKX)	6.454km	KTV end
	KUMAR MARENGA (KMEZ)	8.9 km	KRDLE end
b	Provision of IBS	Nil	
c	Automatic signal	Nil	
d	DK station/Outlying sidings	Nil	
e	Passenger halt	Nil	

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

Between Stations	The Point from which the Block section commences	The Point at which the 'Block Section' ends
JDB-NKX DN Direction	From DN advanced starter signal no. 24 of JDB	DN home signal of NKX.
JDB-KMEZ UP Direction	From UP advanced starter signal no.21 of JDB	UP home signal of KMEZ.

2.4 GRADIENTS:

a) From the centre of the station building towards NKX:

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
Ch: 0.000	Ch: 547M	547M	1 in 600 Falling
Ch: 547M	Ch:2019M	1472M	1 in 150 falling
Ch: 2019M	Ch: 2224M	205M	1 in 125 falling
Ch: 2224M	Ch: 2376M	152M	1 in 150 falling
Ch: 2376M	Ch: 2681M	305M	1 in 300 falling
Ch: 2681M	Ch: 2986M	305M	1 in 150 falling
Ch: 2986M	Into section	-----	Level

b) From the centre of the station building towards KMEZ:

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
Ch: 0.000	Ch: 1099M	1099M	1 in 600 raising
Ch: 1099M	Ch: 1342M	243M	1 in 200 falling
Ch: 1342M	Ch: 2150M	808M	1 in 150 raising
Ch: 2150M	Ch: 2263M	113M	level
Ch: 2263M	Ch: 2592M	329M	1 in 150 falling
Ch: 2592M	Ch: 3186M	596M	1 in 100 falling
Ch: 3186M	Into section	---	Level

2.5 (A) LAY OUT:

Sl no	Running/Non Running line	Electrified/Non Electrified
1	Route-1 (1 st loop)	Electrified
2	Route-2 (Main line)	Electrified
3	Route-3 (2 nd loop)	Electrified)
4	Route-4 (3 rd loop)	Electrified
5	Route-5 (4 th loop)	Electrified
6	Route-6 (Goods loop)	Electrified
7	Route-7 (Goods siding)	Electrified

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(B) PLATFORMS:

- (i) One high level passenger platform measuring 244MX17M is provided on Line no.1 (1st loop).
- (ii) One rail level platform measuring 500MX8M is provided on Line no.6 (Goods loop).
- (iii) One rail level platform cum circulating area measuring 400MX10M is provided on line no.7 (Goods siding).
- (iv) One rail level platform measuring 400MX8M is provided on line no.8 (Goods siding).

2.5.1 DIRECTION OF MOVEMENT & HOLDING CAPACITY:**(a) DIRECTION OF MOVEMENT:-**

The trains coming from Naktisemera end and proceed towards Kumar Marenga are UP trains and the trains coming from Kumar Marenga end and proceed towards a Naktisemera are DN trains.

HOLDING CAPACITIES:

Line no	Designation	CSL	Electrified/Non Electrified	CSL starting & Destination
Line No 1	1 st Loop	700 Meters	Electrified	From Starter to Starter
Line No 2	Main line	722 Meters	Electrified	From Starter to Starter
Line No 3	2 nd loop	844 Meters	Electrified	From Starter to Starter
Line No 4	3 rd loop	763 Meters	Electrified	From Starter to Starter
Line No 5	4 th loop	705 Meters	Electrified	From Starter to Starter
Line No 6	Goods loop	696 Meters	Electrified	From Starter to Starter
Line No 7	Goods siding	332 Meters	Electrified	From Shunt to SB
Line No 8	Goods siding	332 Meters	Electrified	From Shunt to SB

2.5.2 NON RUNNING LINES AND THEIR CAPACITY:**(A) CONSTRUCTION SIDING:**

Construction Siding takes off from line no.1 (Electrified) at KMEZ end of the yard and terminates into a dead end measuring CAL of 163M (PT-DE). The entrance point and corresponding derailing switch is coupled and operated by arc lever provided at site. Hand plunger lock is fitted at the entrance point unlocked by key 'P' released from RKT provided in location box through control no. 42 from panel/VDU. When control 42 is transmitted from panel/VDU S1/C1, S2/C2, SH3, SH4, S6 & S7 signals of line no.1 will be locked in their normal position.

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B. R.E.SIDING:

The RE siding takes off from construction siding on L-1 at KRDL end of the yard (Electrified) and terminates in to dead end measuring CAL of 150M (FM-DE) and is extended in to a dead end in to shunting neck towards KTV end measuring CAL of 203.65M (PT-DE). It is operated by hand point at site.

(C) SHUNTING NECK:

One shunting neck (Electrified) is provided at KTV end of the yard to facilitate shunting from L-3 to L-8 with shunt signals to and from shunting neck and terminates in to a dead end. It is measured a CSL of 350M (SH-DE)

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT:

Nil

2.6 LEVEL CROSSINGS:

(i) One 'A' class manned Engineering interlocked LC gate is situated at km 294/13-14, LC no. KK-83 between JDB-NKX.

(ii) One 'C' class manned Engineering non- interlocked LC gate is situated at km 290/1, LC no. KK-82 between JDB-NKX.

(iii) One 'B' class manned Engineering non- interlocked LC gate is situated at km 297/18-19, LC no. KK-84 between JDB-KMEZ.

3.0 SYSTEM AND MEANS OF WORKING:-

(i) System of working: Absolute block system:

Trains are worked 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) (iv), 14.09 to 14.13 and BWM chapter-IV part I.

(ii) Block instruments:

Single line Diado type Tokenless block instruments are provided for block sections JDB-NKX and JDB-KMEZ vide GR 14.01(a) and the 'OFF' aspect of the last stop signal is the authority for the Loco pilots of all trains to enter into the block section vide GR 14.08(b) (iv).

(iii) Co-operative/Non Co-operative: Co-operative.

(iv) Provision of block telephone: Telephone attached to block instrument connecting the adjacent block stations concerned.

(v) Custody of keys of block instrument: Block instrument is provided with double locking. One key will be with SM and other key will be with S&T maintainer.

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING:

4.1.0 a) Standard of Interlocking: This Station is provided with Standard-II® Electronic Interlocking.

b) Type of signals: Multiple Aspect Colour Light Signals. The aspects and

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indications of the MACLS is governed by GR.3.08 (4) (b).

- c) The Station is provided with central Electronic Interlocking (EI). All signals and points are electrically operated from the central Panel / VDU provided at SM's Office.
- d) Method of operation: Central Panel/VDU is provided in the Station Master's office to electrically control all signals and points.
- e) Provision of axle counter/Track circuits on running lines:

Track circuits are provided in the yard as 1AT, 1T, 24AT, 31AT, 31BT, 33AT, 33BT, 35T, 39AT, 39BT, 41T, 45T, L₁T₁, L₁T₂, L₁T₃, L₂T₁, L₂T₂, L₂T₃, L₃T₁, L₃T₂, L₃T₃, L₄T₁, L₄T₂, L₄T₃, L₅T₁, L₅T₂, L₅T₃, L₆T₁, L₆T₂, L₆T₃, 40AT, 40BT, 32AT, 32AT₁, 34AT, 34AT₁, 36T, 21AT, 2T and 2AT. Axle counters are provided for JDB-NKX BAXT and JDB-KMEZ BAXT. Normally the panel is blank except point and Block section indications for the above track circuits/ Axle counters are available on Panel/VDU at SM's office. When a signal is cleared the route indication 'Yellow' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

- f) Calling on signals/IBS: Calling-on signals are provided below Home signals (i.e. in both Up & Down directions) as per GR.3.13 (1) (b), (2) (3) (4) & (6) (b).
- g) IBS is not provided at this station.
- h) The control Panel is provided with SM's key which shall always remain in the custody of the Station Master on duty for control of points, signals and crank handles control etc in terms of SR 3.36.03(a).
- i) A two position switch is provided on the control panel through which SM on duty can select the mode of operation (i.e. from Panel or VDU). The position of all points, signals and running lines are available in the Panel/VDU. Remainder Block collars are provided for use on push button which shall be placed on the point button and /or route button to prevent operation of the button in case of concerned line is blocked. The VDU is provided with SM's key user name and password which shall always remain with the personal memory of the Station Master on duty.
- j) CRANK HANDLE:

When any point fails to operate normally by the Route Setting operation through Panel/VDU it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per operating manual para-20.06. CH-1 controls 31A/B, 33A/B; CH-2 controls 35, 37; CH-2 controls 35, 37; CH-3 controls 39A/B, 41, 43A/B; CH-4 controls 45A/B, 47; CH-5 controls 32A/B, 40A/B; CH-6 controls 34, 36 & 38A/B.

(The details of standby operation from VDU is given under Appendix-'B')

These crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken

out only when all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle can be released by pressing common 'TRANS' push button and concerned Crank handle control push button simultaneously. When the keys are taken out no signal can be taken 'OFF' over the particular route on the points nominated by the crank handle.

This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points.

The failure of motor operated points must be ensured by physical checking that there is no obstruction. SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency

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

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

4.1.1 TAKING OFF CALLING-ON SIGNAL:

Miniature colour light Calling-on signal is provided below the Home signals in terms of GR.3.13 (6) (b). A Calling-on signal shows no light in the 'ON' position and Yellow light when taken "OFF". A calling-on signal, will be taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' due to failure or any other reason or for admission of train on blocked line. 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 SM on duty. (The detailed procedure is given in Appendix-B)

4.1.2 SHUNT SIGNALS:

(i) Shunt back signals Sh- 3 (A-F) and Sh- 4 (A-F) are provided at KTV and KRDL end respectively for back shunting purpose.

(ii) Shunt signal SH-5 (A-F) provided at KTV end of the yard for shunting on line no 3 to line no 6.

(iii) Shunt signals SH-10, SH-12, H-14, SH-16, SH-18, SH-20 are provided on L-3, L-4, L-5, L-6, L7, L-8 respectively for shunting in shunting neck towards KTV end of the yard.

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

Relay room is provided with two independent locks. The key of one lock shall be in the personnel custody of Station Master on duty and the key of other lock shall be in the custody of S&T Maintainer. In the event of necessity such as for attending failure, or regular maintenance, on being requisitioned by S&T maintainer, SM shall hand over the key to the Maintainer. On completion of the work, maintainer shall lock the relay room and shall return the key to SM. The particulars of such transactions shall be entered by the SM in the relay room key register vide OM 1.14.

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4.3 (A) POWER SUPPLY:

Normal: AT Supply-230v, 50Hz

Stand by: - 1st standby power supply: Chattishgarh State Electricity Board Supply.

2nd stand by power supply: DG set.

(i) A changeover switch is provided in the Station Master's Office with the three power supplies viz., AT, Local and DG 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) For IPS system that provides to EI, auto-change over has been provided.

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

(B) REMOTE MONITORING ASM BOX: Remote monitoring ASM Box gives alarm to the ASM for the following fault conditions:-

(a) 50% depth of discharge (DoD) of battery. In this condition audio/visual alarm comes, which can be acknowledged with audio cut-off.

(b) 60% DOD, which warns for emergency. The alarm for this condition is same as for condition 1.

(c) 70% DOD, which signals system, shut-down. In this condition signal feed is cut-off and all DC-DC converters continue working. Audio alarm continues till power supply is restored.

(d) Any of the module fails, which calls for 'call S&T'.

(e) Whenever there is a failure of power supply in AT or Local 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 AT and Local and make an entry in the Station Diary duly initiating action for rectification of failure, if any.

5. TELECOMMUNICATIONS:

(a) Telephone attached to Token less Block Instruments is connected to adjacent stations on either side.

(b) Hot line Telephone communication is provided between adjacent stations.

(c) The station is connected to KRPU-KRDLD control Circuit.

(d) The station is connected to KRPU-KRDLD traction power control circuit.

(e) Telephone communication is provided between Station Master on duty to UP CH locations and to DN CH Locations.

(f) Telephone communication is provided between Station Master on duty to 'A' class Engineering LC gate at km 294/13-14 between JDB-NKX (LC no KK-83).

(g) Telephone communication is provided between Station Master on duty to 'C' class Engineering LC gate at km 290/1 between JDB-NKX (LC no KK-82).

(h) Telephone communication is provided between Station Master on duty to 'C' class Engineering LC gate at km 297/18 between JDB-KMEZ (LC no KK-84).

(i) 25w VHF set is provided at the station for emergency communication.

(j) BSNL telephone is provided at this station.

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DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

5.1 FAILURE OF COMMUNICATION: -

- a. In the event of failure of communications between the adjacent block stations SR 6.02.06 shall be observed, for working the train.
- b. In the event of total failure of communications between the adjacent block stations SR 6.02.04 shall be observed, for working the train.

6. SYSTEM OF TRAIN WORKING:**6.1 DUTIES OF TRAIN WORKING STAFF:**

The movement of trains is controlled by section controller on duty whose orders shall be complied with provided they do not contravene any provisions of General Rules, Subsidiary Rules, Station Working Rules, Block working manual and any other safe working instructions issued from time to time.

In the event of suspension of control working the Station Master on duty shall work independently in conjunction with the Station Master of adjoining Block Stations and shall be responsible to ensure that there is no undue delay to train operation in general.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

The following is the complement of operating staff provided at the station in each shift for train passing duty.

COMPLEMENT OF STAFF:

Dy Station superintendent	4
TPM/TP	3
SCLM	1(General shift)

STAFF IN EACH SHIFT:

Station superintendent	1
TPM/TP	1
SCLM	1(General shift)

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

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

The SM on duty is responsible to ascertain the clearance of the nominated line between first facing point and advanced starter signal in each direction. The private number book should be under the custody of SM on duty who is authorised to use it.

6.1.3 ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:

Any staff before taking of independent charge of duties connected to train working or any staff who is away from his duty for the period of 15 days or more shall sign in the Assurance Register which is token of having understood the contents. However, in the event of any corrections or modifications in the SWR is involved, the assurance of all the staff who even

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is entrusted the work of train passing duty shall be obtained afresh in the assurance register by the in-charge of the station before they are allowed to work vide SR 5.01.02.

6.2 CONDITIONS FOR GRANTING LINE CLEAR:

- a. The conditions laid in GR 8.03(2)(a) (b) (c) (ii) shall be complied with the SM on duty before line is considered clear and line clear is granted.
- b. Before granting a line clear for a train the SM on duty shall personally ensure that the reception signals pertaining to a train are in the 'ON' position and burning properly vide GR 3.49(4).
- c. Line shall not be considered clear and line clear shall not be granted to an UP train unless:
 - i) Whole of the last preceding UP train has arrived completely.
 - ii) UP Home signal /calling-on signal No. 1A/B/C/D/E/F and/or C-1A/B/C/D/E/F is put back to 'ON' and
 - iii) Line is clear up to DN advance starter signal No.24.
 - iv) Ensure about the closure of manned LC gates.
- d. Line shall not be considered clear and line clear shall not be granted to a DN train unless:
 - i) Whole of the last preceding DN train has arrived completely.
 - ii) DN Home signal /calling-on signal No. 2A/B/C/D/E/F and/or C-2A/B/C/D/E/F is put back to 'ON' and
 - iii) Line is clear up to UP advance starter signal No.21.
 - iv) Ensure about the closure of manned LC gates.

e. ADEQUATE DISTANCE: (SIGNAL OVERLAP)

To take off the Home signals for admission of a train, the adequate distance (overlap) as mentioned below shall be kept clear. [Refer GR.3.40 (3) (b) and SR thereto]

CLEARANCE OF ADEQUATE DISTANCE (SIGNAL OVERLAP):

FOR UP TRAINS		
Line Number	From	To
1.	UP starter Signal No.7	UP advanced starter signal No.21 or up to the end of the Sand Hump.
2.	UP Main line starter signal No.9	UP advanced starter signal No.21.
3.	UP starter signal No.11	UP Advanced starter signal No.21or up to the end of sand hump.
4.	UP starter signal No.13	UP Advanced starter signal No.21or up to the end of sand hump.
5.	UP starter signal No.15	UP Advanced starter signal No.21or up to the end of sand hump.
6.	UP starter signal No.17	UP Advanced starter signal No.21or up to the end of sand hump.

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DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

FOR DOWN TRAINS		
Line no.	From	To
1.	DN starter Signal No.6	DN advanced starter signal No.24 or up to the end of sand hump.
2.	DN Main line starter signal No.8	DN advanced starter signal No.24.
3.	DN starter signal No.10	DN Advanced starter signal No.24 or up to the end of the track 31BT when point no 31 is normal.
4.	DN starter signal No.12	DN Advanced starter signal No.24 or up to the end of the track 39BT when point no 39 is normal.
5.	DN starter signal No.14	DN Advanced starter signal No.24 or up to the end of the track 39BT when point no 39 is normal and point no 41 is reverse.
6.	DN starter signal No.16	DN Advanced starter signal No.24 or up to the end of the track 39BT when point no 39 is normal and point no 41 & 43 are reverse.

Remarks: However when a route is set leading to the Main line the overlap beyond the starter in that particular direction shall extend up to the advanced starter of the station in that direction.

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

Nil

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE:

When a running line is blocked by stabled load, wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train at the station etc., the points at either end should be immediately set against the blocked line except when shunting or any other movement is required to be done on that line. If all the lines of a station happen to be blocked, when line clear has been granted to a train, the points should be set for the line occupied by a stabled load or a goods train in that order so that, in case of mishap, the chance of causalities are minimized. In case of all the lines are occupied by passenger train, points should be set for a loop line to negotiate which the speed of incoming train would be reduced which in turn, would minimize the consequences/causalities.

6.2.1.2 RECEPTION OF A TRAIN ON BLOCKED LINE:

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

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6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

Not Applicable

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE.

Not Applicable

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

NIL.

6.2.1.6 ANY SPECIAL CONDITIONS:

NIL.

6.3 CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS:-

- i) Conditions for taking off approach signals are governed by GR 3.40(1) (b), 3.40(2) (b), 3.40(3) (b)
- ii) calling-on signal may be taken off for the admission of train in the event of failure of Home signal in terms of SR 3.69.02(a) or for the admission of a train on obstructed line in terms of GR 5.09 and SRs thereto.

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

Station master should ensure that signal is put back to 'ON' after passage of the train as per GR 3.36 (2) (B), 14.01 and SR 4.17.01.

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

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

1	Reception of a DN train on line No.1 setting overlap to Sand Hump when point no 33 is normal.	AND	<ul style="list-style-type: none"> a) Reception of an UP train on line No.3 set to sand hump when point no. 32 is normal. <li style="text-align: center;">OR b) Reception of an UP train on line No.4 set to sand hump when point no. 32 is normal & 34 is reverse. <li style="text-align: center;">OR c) Reception of an UP train on line No.5 set to sand hump when point no. 32 is normal and 34 & 36 are reverse. <li style="text-align: center;">OR d) Reception of an UP train on line No.6 set to sand hump when point no. 32 is normal and 34, 36 & 38 are reverse. <li style="text-align: center;">OR e) Dispatch of another DN train from line no. 2 or 3 or 4 or 5 or 6.
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2	Reception of a DN train on line No.3 up to the end of the track 31BT when point no. 31 is normal.	AND	a) Reception of an UP train on line No.1 setting over lap to sand hump. OR b) Dispatch of another DN train from line No.1 or 2.
3	Reception of a DN train on line No.4 up to the end of the track 39BT when point no. 39 is normal.	AND	a) Reception of an UP train on line No.1 setting over lap to sand hump. OR b) Dispatch of another DN train from line No.1 or 2 or 3.
4	Reception of a DN train on line No.5 up to the end of the track 39BT when point no. 39 is normal and point no 41 is reverse.	AND	a) Reception of an UP train on line No.1 setting over lap to sand hump. OR a) Dispatch of another DN train from line No.1 or 2 or 3.
5	Reception of a DN train on line No.6 up to the end of the track 39BT when point no. 39 is normal and point no 41 & 43 are reverse.	AND	a) Reception of an UP train on line No.1 setting over lap to sand hump. OR b) Dispatch of another DN train either from line No.1 or 2 or 3.
6	Reception of an UP train on line No.1 setting overlap to Sand Hump when point no 40 is normal.	AND	a) Reception of a DN train on line No.3 up to the end of the track 31BT when point no. 31 is normal. OR b) Reception of a DN train on line No.4 up to the end of the track 39BT when point no. 39 is normal. OR c) Reception of a DN train on line No.5 up to the end of the track 39BT when point no. 39 is normal and point no 41 is reverse. OR d) Reception of a DN train on line No.6 up to the end of the track 39BT when point no. 39 is normal and point no 41 & 43 are reverse. OR e) Dispatch of another UP train from line no. 2 or 3 or 4 or 5 or 6.
7	Reception of an UP train on line No.3 setting overlap to Sand Hump when point no 32 is normal.	AND	a) Reception of a DN train on line No.1 setting overlap to Sand Hump when point no 33 is normal. OR b) Dispatch of another UP train from line No.1 or 2.
8	Reception of an UP train on line No.4 setting overlap to Sand Hump when point no 32 is normal & 34 is reverse.	AND	a) Reception of a DN train on line No.1 setting overlap to Sand Hump when point no 33 is normal. OR b) Dispatch of another UP train from line

(CH.SRINIVAS)
DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

			No.1 or 2.
9	Reception of an UP train on line No. 5 setting overlap to sand hump when point no 32 is normal & 34 and 36 are reverse.	AND	a) Reception of a DN train on line No.1 setting overlap to the sand hump when point no 33 is normal. . OR b) Dispatch of another UP train from line No.1 or 2.
10	Reception of an UP train on line No. 6 setting overlap to sand hump when point no 32 is normal & 34, 36 and 38 are reverse.	AND	a) Reception of a DN train on line No.1 setting overlap to the sand hump when point no 33 is normal. . OR b) Dispatch of another UP train from line No.1 or 2.

6.5 **COMPLETE ARRIVAL OF TRAINS:**

For section JDB-NKX & JDB-KMEZ:

Entire block section between JDB-NKX & JDB-KMEZ is provided with digital axle counter.

For section JDB-NKX:

A pair of digital axle counter is provided between JDB-NKX one just beyond DN advanced starter signal no. 24 of JDB and another on 2T track circuit of NKX for last vehicle verification.

For section JDB-KMEZ:

A pair of digital axle counter is provided between JDB-KMEZ one just beyond UP advanced starter signal no. 21 of JDB and another on 1T track circuit of KMEZ for last vehicle verification.

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

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

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

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(CH.SRINIVAS)
DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

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

6.6 DISPATCH OF TRAINS:

a) 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 Panel Board/VDU. He shall suspend all non-isolated shunting and then shall take "OFF" the concerned route starter and advanced starter signal. The 'OFF' aspect of the advanced starter is the authority to proceed into the block section. As soon as the train passes the advanced starter signal, Train entering section indication will appear on the panel. The SM will then send the train entering given section signal to the station in advance.

[Refer GR 3.38, 3.42, SR 3.36.04(b), 3.42.04 and BWM 2.07.5(a)]

b) ISSUE OF CAUTION ORDERS:

Whenever in consequent of the line being under repairs or for any other reasons special precautions are necessary, a caution order detailing the kilometer and speed at which train should run with reasons for taking such precautions shall be handed over to the Guard and Loco pilot in terms of GR 4.09 and SRs thereto.

6.7 TRAINS RUNNING THROUGH:

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

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

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

6.8 WORKING IN CASE OF FAILURE:

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

a) TRACK CIRCUITS:

(CH.SRINIVAS)
DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

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

b) AXLE COUNTER:

If the axle counter fails between the block sections, resetting procedure will be adopted as per Para 26.0 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)

d) RECEPTION OF A TRAIN ON BLOCKED LINE:

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

e) RECEPTION OF A TRAIN ON NON-SIGNALLED LINE:

NIL

f) DEFECTIVE SIGNALS:

Whenever signals become defective, the procedure laid down in GR & SR shall be followed. [Refer GR 3.68 to 3.71, 3.80 and SR 3.68.01©] In the event of signal showing no lights, station master on duty shall before giving line clear initiate action in accordance with the procedure laid down in GR and relevant SRs.

[Refer GR 3.51, 3.69, 3.49(4), 3.68 to 3.77]

g) DEFECTIVE INTERLOCKING:

When interlocking becomes defective the SS/SM on duty shall be responsible for correct setting, clamping, padlocking of points for admission of train. [Refer SR 3.69.03 (a) & (c).

h) DEFECTIVE/DAMAGED POINTS:

When any point fails to operate normally by route setting operation through panel/VDU, it is inevitable to operate the points with crank handle. The SS/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

(CH.SRINIVAS)
DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle shall be followed as per operating manual para 20.06.

Station master on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency crank handle register shall be maintained by SM at the station as per para 20.06(d) of the Operating manual. Correct setting, clamping and padlocking of the points devolve on SM on duty. (Details of use of crank handle as per Appendix-'B'). The cases of the failures of the point should be promptly reported to the concerned signal maintainer/JE/SE (signal) for immediate rectification.

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

- a) Motor trolleys shall be worked as per GR 15.25 and SRs there to, BWM 5.11(1) (2), 5.12, 5.13, 5.14(2) (a) and circulars and orders issued from time to time. Material trolleys shall be worked as per GR 15.27 and SRs there to and in accordance with the provisions of Block Working Manual.
- b) Tower wagons shall be worked as per GR 17.08 and SRs there to and BWM 4.39 and other circulars and orders issued from time to time.
- c) Push trolleys shall run under block protection only vide SR 15.25.09(e).
- d) Shunting key of token less block instrument at dispatch station as well as receiving station of the motor/push trolley shall be taken out and kept in the personal custody of SM on duty in addition "trolley on line" board shall be hung up on the handle of the block instrument. Special instructions contained in the circular No.19 of 6.4.88 should be followed.

Note: Trolleys which are to be run on track circuit area shall be insulated as per SR 15.20.02.

7. BLOCKING OF THE LINES:

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23 and SR 5.23.01]

A) SECURING OF VEHICLES: -

As far as practicable, 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 SS on duty shall be responsible to secure the vehicle/stable loads to prevent rolling down of vehicles and arrest obstruction and fouling.

NOTE

(CH.SRINIVAS)
DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

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

B) USE OF REMINDER BLOCK COLLARS:-

Whenever any running line is blocked or when a train is stopped to cross another train or detained for any other reason, even for a short while or during shunting operations, reminder collars shall be used by the SM on duty on the push buttons concerned.

8.0 SHUNTING

8.1 GENERAL PRECAUTIONS.

Shunting will be carried out at the station in accordance with General Rule and relevant Subsidiary Rules and Block working Manual [Refer GR 3.46, 3.52 to 3.56, 5.13,5.14,5.16 to 5.23, 8.05,8.06, 8.14 and 8.15] with relevant SRs and OM 7.01, 7.07, 7.08, 5.1(2) (B) shall be followed.

NOTE:

For any non signaled movement physical verification of the clearance of the crossover points shall be ensured by the Guard/SM on duty for supervising shunting operations.

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:

Shunting in the face of an approach train is strictly prohibited vide GR 8.09 and SR thereto.

8.3 PROHIBITION OF SHUNTING, SPECIAL FEATURES IF ANY:

- (i) Hand shunting is prohibited at both ends of the yard vide GR 5.20.
- (ii) Fly shunting is prohibited at both ends of the yard vide SR 5.21.01 (c)
- (iii) For shunting in both ends of the yard, engine should be leading towards the falling gradient.

8.4 SHUNTING ON SINGLE LINE:

- i) Within station section: Governed by GR 8.10.
- ii) Between last stop signal and opposite first stop signal: Governed by GR 8.12.
- iii) 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.
- iv) During failure of Block instrument: Block back messages shall be exchanged between Station master at either end of the section which is intended to be obstructed supported by private number. Both the Station Masters shall fix line block collars on respective Block Instruments and shall continue shunting provided the Block section is clear.

8.5 SHUNTING ON DOUBLE LINE:

Not applicable.

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

(CH.SRINIVAS)
DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

CONTRACTOR SIDING AND RE SIDING:

The shunting in contractor siding and RE siding shall be authorized by issue of T/806 vide SR 5.13.02. Since movement is non signaled, clamping and pad locking of facing and trailing points shall be restored. The relevant provision of GR 5.14 and SRs thereto shall be meticulously followed.

9.0 ABNORMAL CONDITION:-**(a) RULES TO BE OBSERVED IN THE EVENT OF ABNORMAL CONDITIONS:**

(i) During partial interruption of communication between the adjacent block stations, SR 6.02.06 shall be observed.

(ii) In the event of occupation of block section due to accident or obstruction the authority for the train to work up to obstruction as and when required is T/A 602 & SR 6.02.05 shall be observed.

(iii) In the event of trains delayed in the block section, GR 6.04 and relevant SRs shall be followed.

(iv) Failure/passing of Intermediate Block stop signal at 'ON' position:
Not applicable.

(v) Failure of Axle counter Block/BPAC: Procedure to be followed vide GR 14.13 & 14.14.

(vi) Failure of MTRC: Not applicable.

(b) i. Procedure for emergency operation of points by Crank Handle.-

The detailed Procedure for emergency operation of points by Crank Handle of motor operated points shall be followed.

Crank handle operation is interlocked with the signaling and interlocking system at this station. Key of crank handles normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals leading over the points are in the Normal position and the route is not locked for whatever reasons. Crank Handle can be released by operating common 'TRANS' push button and concerned Crank handle control push button simultaneously. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted at both ends of the yard.

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

ii. Procedure for emergency operation of points with point zone axle counter/Track circuits failure and emergency route release:

Emergency point operation facility is provided to operate the point from the panel in case of failure of point controlling track circuit. A push button (Black with Red dot) for emergency point operation is provided on the top of the Panel. If such operation is necessary, the SM on duty, after ensuring that SM's point Key is 'IN' and no vehicle is standing on the concerned point zone

shall press the emergency point operation button (by breaking the seal) along with relevant point button simultaneously.

Then keeping point button pressed, emergency point button to be released and the point group normal button or point group reverse button is to be pressed for operating the point to 'NORMAL or REVERSE. Every emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

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

©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 SM on duty.

(d)Reporting of failure of points, Track circuits/axle counter and interlocking:-

Whenever there is a failure of points, Track circuits/axle counter or any interlocking gear at station, the failure should be reported by SM on duty to the concerned Signaling Maintenance Staff on duty responsible for attending to the failure and only after receipt of the written memo from the Signaling

Maintainer for rectification of the fault, SM should restore the normal working.

The entries in failure register to be done with message to the section controller.

9.1 TOTAL FAILURE OF COMMUNICATION:

Rules and regulations for working of trains during total interruption of communication on single line section shall be followed vide SR 6.02.04 and instructions laid down in BWM.

9.2 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

Not applicable

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

(i)In the event of total failure of communication, trains shall run on the authority to proceed without line clear in terms of SR 6.02.03.

(ii)In the event of necessity to send a train to assist the crippled trains, SR 6.02.05 shall be followed.

10. VISIBILITY TEST OBJECT:

The signal lights of UP starter signal No.7 and DN starter signal No.6 of Line No.1 are ear marked to serve as visibility test object during day and night vide GR 3.61.2(b)(iii)

(CH.SRINIVAS)
DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

11. ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-'E')

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

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 signalmen 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:

(a) 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 signalmen on duty and details of detonators used.

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

(b) 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.

©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 COMMUNICATION ARRANGEMENTS AT THE STATION.

APPENDIX-C : ANTI COLLISION DEVICE (RAKSHA KAVACH)

APPENDIX-D : DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT

APPENDIX-E : LIST OF ESSENTIAL EQUIPMENT PROVIDED AT THE STATION.

(CH.SRINIVAS)
DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

- APPENDIX-F : RULES FOR WORKING OF DK STATIONS, 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 AND SUBSIDIARY RULES, BLOCK WORKING MANUAL RULES AND OPERATING MANUAL. THESE RULES CANCEL ALL PREVIOUS STATION WORKING RULES OF "JAGDALPUR".

(CH.SRINIVAS)
DSTE/Proj/VSKP

(K.GANESH KUMAR)
DOM/PLG/WAT

APPENDIX 'A'
WORKING OF LEVEL CROSSING GATES AT JAGDALPUR
STATION

1. GENERAL:

1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:

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

1. Number of Level Crossing Gate : KK-83
2. Engineering or Traffic Gate : Engineering gate ('A'-class)
3. Under control of Station Master/Permanent Way inspector:
: SSE [P]/JDB
4. Location at KM : 294/16-17
5. At Station : --
6. In between station : JDB-NKX
7. BG/MG/NG : BG
8. Single line/Double line/Multiple line : Single Line
9. Normal Position : Opened to Road Traffic.
10. Inter Locked/Non-Interlocked : Interlocked.
11. Means of interlocked : Mechanical interlocked.
12. Provision of Gate signal at KMs : ---
13. Signaling arrangement : MACLS
14. Means of communication- Telephone/Bell etc: Telephone
connected with JDB station
15. Width of level crossing gate : 7.5Mtrs.
16. Type of road {NH/SH/Other} : Others
17. Name of road : Lamini Road
18. Metalled/Non-Metalled : Metalled
19. Approach road : Bitumen.
20. Width of the road : 5.5M.
21. Angle of road crossing
[In case of the skew gates]: --
22. Road gradients {if any} :
23. Road alignment {Straight/Curve} : i) North-East--- Straight
ii) South-west-- Straight
24. Provision of height gauge : Provided
25. Type of Barriers : Lifting Barriers.
26. Length of check rail : 10M.
27. Road surface in L-Xing gate : Concrete
28. Length of Rumble strip /speed breakers: Rumble strip & 20M from
clearance of track.
29. Road signs : Provided.
30. Speed breaker indication board : Provided.
31. TVU : 72329 as on 01.02.2012
32. Censes next due on : 01.02.2015

(CH.SRINIVAS)
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(K.GANESH KUMAR)
DOM/PLG/WAT

33. Demarcation for placement of detonators: Provided.
 34. No. of Gate men working: Three
 35. Nearest Railway Medical Assistance: JDB.
 36. Nearest private Medical Assistance {If Any}: Jagdalpur
 37. List of equipment available Yes/No..... Yes.

1.2 EQUIPMENTS:

ITEMS	QUANTITY/NUMBERS
1. Hand Signal Lamp Tri Color.	3 Nos.
2. Hand Signal Flag Green.	1 No with mounted stick
3. Hand Signal Flag Red.	3 Nos.
4. Banner Flag Red.	3 Nos.
5. Posts for exhibiting red banner flag	2 Nos
6. Spare chains with padlocks	2 with stop marker
7. Detonators	10 in each case
8. Gate lamps	2 Nos.
9. Tommy Bar	1No
10. Mortar Pan	1No
11. Spade/Fowarh	1No
12. Rammer	1No [in case of asphalted road this may not be provided.]
13. Pick Axe	1No [in case of asphalted rod this may not be provided.]
14. Tin case for flags	1No
15. Can for Oil	1No
16. Water Pot/Bucket	1No
17. Canister for Muster Roll	1No
18. Set of spare spectacles of gate man wearing glasses.	1No
19. Board demarcation protection of level crossing gate diagram in case of obstruction	1No
20. Bucket	1No
21. Whistle	1No
22. Wall Clock	1 No
23. A small sized chain in case of failure of Boom Lock	2No

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

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

1.4 DUTIES OF GATEMEN:

(i) ALERTNESS:

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

2. POSITION DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATEMAN:

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

[ii] Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrive and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.

[iii] Except where otherwise prescribed under special instructions, he

shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.

[iv] Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

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

[vi] If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlock for securing the gate against road traffic. Gate man shall report to the station master, gang mate or permanent way inspector any defect in his gate or apparatus pertaining to it, as soon as possible.

[vii] In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position.

[viii] At the gate whose signal has become defective the Gateman shall close and lock the lifting barrier on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco pilot to report the defect at the next station.

[ix] Gateman shall wear badge and prescribed uniform while on duty at level Crossing gate.

[x] Gateman shall ensure that he is having competency certificate in his possession while on duty.

[xi] Gateman shall work the gate as per gate working instructions and remain well conversant with this instruction.

[xii] Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.

[xiii] Gateman shall see that the channel for the flange of the wheel is kept clean.

[xiv] Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.

[xv] Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.

[xvi] Gateman on electrified section shall watch that road vehicles/animal passing from gate are within the height loading gauge provided on either side of the level crossing gate.

[xvii] Gateman shall prevent tress passing by persons or cattle to the maximum extent.

4. ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

[i] He shall take prompt action to warn the loco pilot/guard of the passing train by showing red flags by day and red light by night.

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

The gateman shall protect the line as under:

A) ON SINGLE LINE SECTION:

- (i) Gateman shall plant a red banner flag by day and red light by night 5meters 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 5meters away from the site of obstruction.
- (iii) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- (iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600meters and place one detonator on the line. There after he shall proceed to a distance 1200meters from the level crossing gate and place 3 detonators on the track 10meters 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 as he can go.

(ix) Thereafter, he shall warn the loco pilot and stop the approaching train by waving his red flag by day and red hand signal lamp by night repeatedly.

[B] OTHER ACTION TO BE TAKEN BY GATE MAN:

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

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

[iii] He shall note down the particulars of the road vehicle, vehicle number, name of the vehicle driver, owner and relay these details to the nearest Station Master or Permanent way inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

6 ENGINEERING ITEMS:

Please Para 916, 918, 919 of IRPWM for visibility requirement at level crossings, provision of speed breakers on the approach roads of level crossing and senses of traffic at level crossings.

Annexure-I**WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATE INTERLOCKED WITH GATE SIGNALS, PROVIDED WITH TELEPHONE WITH NORMAL POSITION "OPEN TO ROAD TRAFFIC" FOR L.C. GATE AT KM 294/13-14 BETWEEN JDB-NKX.**

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

1. Mode of operation :

Gate shall normally kept open to the road traffic whenever it is required to close the gate SM on duty shall inform the gate man on duty about the direction and description of the train intended to receive or dispatch supported by private number. Gate man on duty shall ensure clearance of road traffic close and lock the gate. There after he will perform the following procedure to take off the Gate home signals as the case may be.

- (i) Key 'M' is obtained from winch after closing the L.C. gate and releases GF-2.
- (ii) GF-2 when reversed effects boom locking & releases key-N & lever Nos. GF-3 or GF-4.
- (iii) Lever no. GF-3 when reversed releases UP gate stop signal.
- (iv) Lever no. GF-4 when reversed with key 'N' transmitted to SM will extend slot to DN advanced starter S-24 of JDB.
- (v) Lever no GF-4 is provided in the gate lodge to put back the concerned signals to 'ON' in case of emergency.
- (vi) For opening of the gate, SM transmits control-49, key-N released from RKT at Gate lodge for DN trains only.
- (vii) No key transmission is provided for UP trains from GK to SM and vice versa.

2. Exchange of Private Number:

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

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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 fails at the gate connected with the station at the dispatching end, SS/Dy.SS shall issue a caution order to the loco pilot of the departing train.

[ii] SS/Dy.SS 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 SS/Dy.SS shall advise the SS/Dy.SS at the dispatching end, under exchange of private number that the telephone at the gate has failed.

[v] The SS/Dy.SS 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] SS/Dy.SS will also advise the gateman through Gang man/Patrolman /Loco pilot of the first train that the telephone has become defective.

[vii] SS/Dy.SS 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 SS/Dy.SS on duty under exchange of private number and ensure that lifting barriers do not foul the track.

[ii] He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then to the other end.

[iii] Gateman shall secure the gate against road traffic by means of safety chains and padlock.

[iv] After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light to the loco pilot of the approaching train.

[v] SS/Dy.SS on duty shall issue caution order to the loco pilot of a departing train.

[vi] He shall also advise the SS/Dy.SS at the dispatching end, under exchange of private number, to issue a caution order to the loco pilot to that effect before dispatching the train in to 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 issues 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 gate man must immediately inform the SS/Dy.SS on duty on telephone, under exchange of private number.

[ii] If Emergency Key is available at the gate lodge, gateman will take it out from the sealed box by breaking the seal and open the gate for road traffic.-No Emergency Key provided.

[iii] The record of the date and time of breaking the sealed cover of emergency key box shall be recorded and signed with reasons.-Not applicable

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

[v] SS/Dy.SS on duty shall issue caution order to the loco pilot before dispatching a train.

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

[vii] SS/Dy.SS 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 re-connection / fit memo for the same.

[ix] After rectification, the Emergency key shall be replaced in the Emergency key box and resealed by the S&T maintainer. ---- Not applicable.

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 level or key transmitter then gateman must immediately inform the SS/Dy.SS on duty on telephone, under exchange of private number.

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

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

[iv] SS/.Dy.SS on duty shall issue a caution order to loco pilot of a departing train.

[v] He shall also advise the SS/Dy.SS at the dispatching end, under exchange of private number, to issue a caution order to the loco pilot before dispatching a train in the block section from his end.

[vi] SS/Dy.SS shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.

[vi] Normal working will be resumed only after S&T staff repair the key transmitter and issue re-connection / fit memo for the same.

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DOM/PLG/WAT

[viii]After rectification, the Emergency Key shall be replaced in the emergency key box and released by the S&T maintainer

7. Defective Gate Signals:

[i]The gate man shall treat the gate signal as defective and must not take off them under following circumstances:

[a]If gate signal can be taken 'OFF' without closing the gate, or

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

[c]The key can be extracted from the gates when the gate is in open condition.

[ii]If the gate or the gate signal or distant signal becomes defective in 'OFF' position, the gateman will make all efforts to put it at 'ON' position by turning signal levers to 'N' position.

[iii]The gate man will immediately advise the SS/Dy.SS on duty, under exchange of private number regarding defective gate signals.

[iv]Thereafter, the gate must be treated as non-interlocked and procedure for reception /dispatch as prescribed for non-interlocked gates should be adopted.

[v]He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.

[vi]SS/Dy.SS on duty will issue a caution order to the loco pilot of a departing train.

[vii]He shall also advise the station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the loco pilot before dispatching a train in the block section from his end.

[viii]SS/Dy.SS 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 a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gate man shall immediately put back gate signals to 'ON' position.

[ii] He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate for this purpose.

[iii]Immediately after this, the gateman shall advise the SS/Dy.SS on duty regarding the defects /obstruction at the gate, under exchange of private number.

[iv]If there is no response from the SS/ Dy.SS 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 instructions for duties of gateman under item no.1.5(5).

[vi] Thereafter he shall protect the gate from the other direction also.

[vii] He shall note down the particulars of the road vehicle, name of the Vehicle driver, owner and relay these details to the SS/Dy.SS who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers are not fouling the track.

[viii] The SS/Dy.SS shall also inform the SS/Dy.SS 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 off all obstruction.

[ix] After the track has been cleared off all obstruction the gateman shall inform to the SS/Dy.SS accordingly, under exchange of private number.

[x] SS/Dy.SS shall then issue a caution order to loco pilot of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the gateman, if the gate is broken, but is clear off any obstruction.

[xi] Gateman shall secure the gate against road traffic the means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.

[xii] SS/Dy.SS shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.

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

9. Obstruction on the Track near Level Crossing Gate:

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

APPENDIX 'A'
WORKING OF LEVEL CROSSING GATES AT JAGDALPUR STATION

1. GENERAL:**1.1 DESCRIPTION OF THE LEVEL CROSSING GATE:**

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

1. Number of Level Crossing Gate: KK-84
2. Engineering or Traffic Gate : Engineering gate ('B'-class)
3. Under control of Station Master/Permanent Way inspector: SSE [P]/JDB
4. Location at KM : 297/18-19
5. At Station : Nil
6. In between station : JDB-KMEZ
7. BG/MG/NG : BG
8. Single line/Double line/Multiple line: Single Line
9. Normal Position : Close to Road Traffic.
10. Inter Locked/Non-Interlocked : Non-Interlocked.
11. Means of interlocked : Nil
12. Provision of Gate signal at KM : Nil
13. Signaling arrangement : Nil
14. Means of communication- Telephone connected Telephone/ Bell etc : with JDB station
15. Width of level crossing gate : 7.5 Mtrs.
16. Type of road {NH/SH/Other} : Others
17. Name of road : Parpa- Sarai Road
18. Metalled/Non-Metalled : Metalled
19. Approach road : BT Road
20. Width of the road : 5.5 Mtr.
21. Angle of road crossing [In case of the skew gates]: --
22. Road gradients {if any} : North-East side: 1 in 30
: South-West side: 1 in 30
23. Road alignment {Straight/Curve} Straight
24. Provision of height gauge : Provided
25. Type of Barriers : Lifting Barriers.
26. Length of check rail : 10 Mtrs
27. Road surface in L-Xing gate : Concrete
28. Length of Rumble strip /speed breakers: 8Mtrs.
29. Road signs : Provided.
30. Speed breaker indication board: Provided.
31. TVU : 90999 in 01.02.2012
32. Censes next due on : 01.02.2015
33. Demarcation for placement of detonators: Provided.

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- 34.No. of Gate men working : Three
 35.Nearest Railway Medical Assistance: JDB
 36.Nearest private Medical Assistance {If Any}: Jagdalpur
 37.List of equipment available Yes/No :Yes.

1.2 EQUIPMENTS:

ITEMS	QUANTITY/NUMBERS
1. Hand Signal Lamp Tri Color.	3Nos
2. Hand Signal Flag Green.	1 No with mounted stick
3. Hand Signal Flag Red.	3 Nos
3. Banner Flag Red.	3 Nos
5. Posts for exhibiting red banner flag	2 Nos
6.Spare chains with padlocks	2 with stop marker
7.Detonators	10 in each case
8.Gate lamps	2Nos
9.Tommy Bar	1 No
10.Mortar Pan	1 No
11.Spade/Fowarh	1 No
12.Rammer	1 No [in case of asphalted road this may not be provided.]
13.Pick Axe	1 No [in case of asphalted rod this may not be provided]
14. Tin case for flags	1No
15. Can for Oil	1No
16. Water Pot/Bucket	1No
17. Canister for Muster Roll	1No
18. Set of spare spectacles of gate man wearing glasses.	1No
19. Board demarcation protection of level crossing gate diagram in case of obstruction	1No
20. Bucket	1No
21. Whistle	1No
22. Wall Clock	1No
23. A small sized chain in case of failure of Boom Lock	2No

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1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

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

1.4 DUTIES OF GATEMEN:

ALERTNESS:

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

2. POSITION DURING PASSAGE OF TRAINS:

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

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

3. ROUTINE DUTIES OF GATEMAN:

- [i] Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- [ii] Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrive and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.

[iii] Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.

[iv] Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.

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

[vi] If lifting barriers get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlock for securing the gate against road traffic. Gate man shall report to the station master, gang mate or permanent way inspector any defect in his gate or apparatus pertaining to it, as soon as possible.

[vii] In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position.

[viii] At the gate whose signal has become defective the Gateman shall close and lock the lifting barrier on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco pilot report the defect at the next station.

[ix] Gateman shall wear badge and prescribed uniform while on duty at level Crossing gate.

[x] Gateman shall ensure that he is having competency certificate in his possession while on duty.

[xi] Gateman shall work the gate as per gate working instructions and remain well conversant with this instruction.

[xii] Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.

[xiii] Gateman shall see that the channel for the flange of the wheel is kept clean.

[xiv] Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.

[xv] Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.

[xvi] Gateman on electrified section shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.

[xvii] Gateman shall prevent tress passing by persons or cattle to the maximum extent.

4 ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

[i] He shall take prompt action to warn the Loco pilot/guard of the passing train by showing red flags by day and red light by night.

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

5. ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

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

The gateman shall protect the line as under:

[A] ON SINGLE LINE SECTION:

- (i) Gateman shall plant a red banner flag by day and red light by night 5meters 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 5meters away from the site of obstruction.
- (iii) Gateman shall then proceed to protect the gate along with detonators and red flag by day and red hand signal lamp by night.
- (iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night towards the direction from which a train is expected to arrive first, to a point 600meters and place one detonator on the line. There after he shall proceed to a distance 1200 meters from the level crossing gate and place 3 detonators on the track 10meters 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 as he can go.
- (viii) Thereafter, he shall warn the loco pilot and stop the approaching train by waving his red flag by day and red hand signal lamp by night repeatedly.

[B] OTHER ACTION TO BE TAKEN BY GATE MAN:

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

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

[iii] He shall note down the particulars of the road vehicle, vehicle number, name of the vehicle driver, owner and relay these details to the nearest Station Master or Permanent way inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

6. ENGINEERING ITEMS:

Please Para 916, 918, 919 of IRPWM for visibility requirement at level crossings, provision of speed breakers on the approach roads of level crossing and senses of traffic at level crossings.

APPENDIX 'A'**ANNEXURE – V**

(General Instruction is common for all types of Manned Level Crossing Gate)

1. MODE OF OPERATION:

Detailed mode of operation for opening and closing the level crossing gate shall be provided in the respective Station Working Rules and Gate Working Instructions incorporating local operational requirements. When level crossing gate is required to be opened for passage of road traffic, the gateman will operate the winch after following the instructions given in para 2 to 6 below.

2. EXCHANGE OF PRIVATE NUMBER:

(i)The normal position of the level crossing gate being "closed to road traffic", it should always be in closed condition against road traffic except when it is opened for passage of road traffic over the level crossing subject to condition prescribed below.

(ii)The station Master before permitting each train to enter into the block section shall ask gateman on the telephone by giving private number whether the gate is closed against road traffic for the passage of the train. The gateman only after ensuring that the gate is actually closed and locked against road traffic shall give a private number to the station master in assurance of gate being closed and locked against road traffic.

(iii) The station master shall not permit any train to enter into the block section unless he is assured of the closure/locking of the gate by gateman supported by a private number.

(iv)When the gateman desires to open the gate for passage of road traffic, he should ensure that:-

a)He has not exchanged any private number with the station as per (ii) above or

b)If he has exchanged private number with the station master, the whole of the train with the last vehicle indicator has passed over the level crossing gate and the station master has not exchanged private number with him for any other movement with immediately in rear of the train or on adjacent line(s).

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

(v)In case gateman is not responding on telephone or incase the telephone becomes defective or private number is not received from the

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gateman, the station master shall adhere to the procedure prescribed in SR 16.03.04.

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

3. FAILURE OF TELEPHONE COMMUNICATION:

When Telephone communication fails or it does not get any response from the gate man despite 2 or 3 attempts, the following procedure should be adopted.

[i] Station Master at the dispatching end shall assure caution order to the Loco pilot of the departing train.

[ii] The caution order shall advise the Loco pilot to whistle continuously and approach the gate cautiously.

[iii] The Loco pilot shall be instructed to pass the gate cautiously, on being hand signal by the gate man. 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 Asst. Loco pilot will give

the alright signal and if the gate is not closed he Asst. Loco pilot must close the gate and then give alright signal. In the absence of the Asst. Loco pilot, the Loco pilot may take the assistance of Asst. Guard/Guard.

[iv] In case of an approaching train, the SM shall advise the SM at the dispatching end, under exchange of private number that the Telephone at the gate has failed.

[v] The Station Master at the dispatching end shall then issue a caution order to the Loco pilot before dispatching a train in the block section from his end.

[vi] Station Master shall also advise the gate man through gang man/Petrol man or the Loco pilot of the first train that the Telephone has become defective.

[vii] He shall also advise S&T staff responsible for maintenance of the Telephone to rectify the same at the earliest.

[viii] Normal working will be resumed only after S&T staff rectify the Telephone and issue reconnection/fit memo for the same.

4. FAILURE OF LIFTING BARRIARS:

[i]When the gate cannot be closed due to failure of lifting barriers, the gateman shall immediately inform the Station Master on duty under exchange of private number, and ensure that lifting barriers do not foul the track.

[ii]He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.

[iii]Gate man shall secure the gate against road traffic by means of safety chains and pad locks.

[iv]After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light to the Loco pilot of the approaching train.

[v]Station Master on duty shall Issue caution order to the Loco pilot of a departing train.

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

[vii] Station Master shall advise maintenance staff responsible for maintaining the lifting barrier to rectify the same at the earliest.

[viii]Normal working will be resumed only after maintenance staff repair the lifting barrier and issue reconnection/If memo for the same.

5. OBSTRUCTION AT THE GATE:

[i]If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately put back gate signals to 'ON' position.

[ii]He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate for this purpose.

[iii]Immediately after this, the gateman shall advise the Station Master on duty regarding the defects/obstructions at the gate, under exchange of private number.

[iv]If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.

[v]Gateman shall then rush with detonators and red flag by day and red hand signal lamp by night in the direction of approaching train and protect the gate as stipulated in General instructions for duties of gateman under item No.1.5 [5].

[vi]Thereafter he shall protect the gate from the other direction also.

[vii]He shall note down the particulars of the road vehicle, name of the vehicle 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.

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[viii]The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.

[ix]After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.

[x]Station Master shall then issue a caution order to Loco pilots of all trains to proceed cautiously, and pass the gate signal at 'ON' position on green hand signal of the gateman, If the gate is broken, but is clear of any obstruction.

[xi]Gateman shall secure the gate against road traffic by means of safety chains and padlocks, and there after exhibit green hand signal, if the gate is not obstructed.

[xii]Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.

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

6. 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.(vii) above, if the obstruction fouls the level crossing gate, gateman must keep the gates closed against road traffic till the track is cleared of the obstruction.

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APPENDIX 'B'**DETAILS OF SIGNALLING AND INTERLOCKING INSTALLATION AND COMMUNICATION ARRANGEMENTS AT THE JAGDALPUR STATION****1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATION:**

This is a 'B' Class Station with Standard-II® interlocking (with isolation) with route setting type panel. The points and signals etc are power operated from a composite miniature 'DOMINO TYPE' full-fledged central panel or VDU installed in the station Master's office. This Station is equipped with multi aspect colour light signalling. The Handle type Tokenless Single Line block instruments are provided in the SM panel room for section JDB-NKX & JDB-KMEZ.

1.1. DISCRIPTION OF PANEL:

The yard layout is depicted on the panel and the panel is fixed parallel to the track so that when the Station Master faces the panel, the yard drawing on the panel corresponds to the actual field lay out. A Visual Display Unit (Computer) is provided in the SM's office as a standby option.

(The description and the function of Visual Display Unit is given in APPENDIX-'B1')

1.2. POINT PUSH BUTTONS:

Points are normally operated automatically along with route setting operation. However required points can be operated individually also. For this point push buttons BLACK in colour are fitted over the point layout on the panel board. The individual operation of electric point machine is controlled by these point push buttons in conjunction with the point group button (Black with Red dot) (Normal) or (Reverse) as per requirement, fitted on the top of the panel board.

1.2.1 When a point is set and locked correctly in NORMAL position, a 'white' steady strip light indication on straight line appears suggesting that the point is in NORMAL position.

1.2.2 When a point is set and locked in REVERSE position, a white steady strip light indication in reverse appears suggesting that the point is in REVERSE position.

1.2.3 When the points of any route have been correctly set and relevant signal is taken 'OFF', 'RED' indication appears near the points indicating that the concerned points are locked either in NORMAL or REVERSE.

1.2.4 When the points are neither set nor locked either in NORMAL or in REVERSE correctly, the normal and reverse indication will not be there but the indication will start flashing till such time the point is housed and locked properly in one of the positions. In such case points are to be set both ways

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by crank handle and clamped and padlocked. This indication will flash during point operation also.

1.2.5 All points over running lines are operated by electric point machines.

1.2.6 The cause for non setting of the point in the desired position shall be checked up by the Station Master on duty according to GR and SR 3.68.01(C). If there is a defect other than an obstruction, this point shall be considered defective and action shall be taken for clamping and Padlocking of these points in the desired position by the Station Master on duty himself for all trains according to SR 3.69.03 (C). In such case both ends of the point shall be clamped and padlocked.

1.2.7 DESCRIPTION OF POINT PUSH BUTTONS:

SL. NO	POINT BUTTON NO.	COLOUR	DESCRIPTION
1	31 A/B	Black	Cross over point between Main line and line no.3 at NKX end.
2	32 A/B	Black	Cross over point between Main line and line no.3 at KMEZ end.
3	33 A/B	Black	Cross over point between Main Line and line no.1 at NKX end.
4	34	Black	Point between line no.3 and line No.4 at KMEZ end.
5	35	Black	Point between shunting neck and line No.3 at NKX end.
6	36	Black	Point between line no.4 and line No.5 at KMEZ end.
7	37	Black	Point between shunting neck and line No.4 at NKX end.
8	38A/B	Black	Cross-over Point between line no.4 and line No.5 at KMEZ end.
9	39A/B	Black	Cross-over Point between line no.3 and line No.4 at NKX end.
10	40A/B	Black	Cross-over Point between line no.1 and line No.2 at KMEZ end.
11	41	Black	Point between line no.4 and line No.5 at NKX end.
12	43A/B	Black	Cross-over Point between line no.5 and line No.6 at NKX end.
13	45A/B	Black	Cross-over Point between line no.5 and line No.6 at NKX end.
14	47	Black	Isolation point between line no.7 and shunting neck.
15	42	Black	Control for construction Siding at KMEZ end.
16	Point Group button (Normal)	Black with Red dot	Common button for normal operation of points
17	Point Group button (Reverse)	Black with Red dot	Common button for reverse operation of points

1.2.3 DESCRIPTION OF POINT GROUP BUTTON:

There are two point group buttons (Black with red dot) at the top of panel one for Normal and one for Reverse operation of points. The button is operated in conjunction with point button to operate the concerned point to the required setting.

1.3 SIGNAL PUSH BUTTON:

These are Red coloured push buttons on the panel near that stop signals on the panel. These are operated in conjunction with Route button (White coloured) to take 'OFF' the signals.

1.3.1 DESCRIPTION OF SIGNAL BUTTONS:

SL NO	BUTTON NO.	COLOUR	DESCRIPTION
1	C-1	Red with white dot	Button for UP calling 'ON' signal for Line No.1 to 6.
2	S-1	Red	Button for UP Home signal for Line No.1 to 6.
3	C-2	Red with white dot	Button for DN calling 'ON' signal for Line No.1to 6.
4	S-2	Red	Button for DN Home signal for Line No.1to 6
5	SH-3	Yellow	Button for Shunt Signal for line no.1to 6.
6	SH-4	Yellow	Button for Shunt Signal for Line No.1 to 6.
7	SH-5	Yellow	Button for Shunt Signal for Line No.3 to 8.
8	S-6	Red	Button for DN L-1 starter.
9	S-7	Red	Button for UP L-1 starter.
10	S-8	Red	Button for DN L-2 starter.
11	S-9	Red	Button for UP L-2 starter.
12	S-10	Red	Button for DN L-3 starter.
13	SH-10	Yellow	Button for dependant shunt Signal below DN L-3 starter for shunting facility towards shunting neck.
14	S-11	Red	Button for UP L-3 starter.
15	S-12	Red	Button for DN L-4 starter.
16	SH-12	Yellow	Button for dependant shunt Signal below DN L-4 starter for shunting facility towards shunting neck.
17	S-13	Red	Button for UP L-4 starter.
18	S-14	Red	Button for DN L-5 starter.
19	SH-14	Yellow	Button for dependant shunt Signal below DN L-5 starter for shunting facility towards shunting neck.
20	S-15	Red	Button for UP L-5 starter.

SL NO	BUTTON NO.	COLOUR	DESCRIPTION
21	S-16	Red	Button for DN L-6 starter.
22	SH-16	Yellow	Button for dependant shunt Signal below DN L-6 starter for shunting facility towards shunting neck.
23	S-17	Red	Button for UP L-6 starter.
24	SH-18	Yellow	Button for SH-18 on L-7 for shunting facility towards shunting neck.
25	SH-20	Yellow	Button for SH-20 on L-8 for shunting facility towards shunting neck.
26	S-21	Red	Button for UP Advanced starter.
27	S-24	Red	Button for DN Advanced starter.

1.3.2 SIGNAL INDICATION:

The aspects of the signals as obtained at any time are shown on the panel on the signal indication along side of the track. The ON aspect indications of stop signals are RED and OFF aspect indications GREEN on panel. The ON aspect of distant signal is yellow and OFF aspect is Green on the panel.

1.4 ROUTE BUTTONS:

1.4.1 Route buttons are provided separately on each running line on the panel for initiation of route. Common route buttons are also provided for taking off starters. An individual route button is provided for taking 'OFF' advanced starter for clearing the signal. It is necessary to operate the signal button and the concerned route button simultaneously for taking OFF concerned signal.

1.4.2 DESCRIPTION OF ROUTE BUTTONS:

SL. NO.	BUTTON NO.	COLOUR	DESCRIPTION
1	L1/1 UN	White with Black dot	Common route button for UP & DN Home signals, UP&DN Calling-On signals and UP&DN shunt signals for line No.1 setting overlap to sand hump.
2	L1/2 UN	White	Common route button for UP and DN Home signal for line No.1 setting overlap on Main line.
3	L-2 UN	White	Common route button for UP and DN Home signals, Calling-on signals and shunt signals for line No. 2 Main line.
4	L3/1 UN	White with Black dot	Common route button for UP and DN Home signals, UP & DN Calling-On signals and UP & DN shunt signals for line No. 3 setting overlap to sand hump on UP direction and to the end of track 31BT on DN direction.
5	L3/2 UN	White	Common route button for UP and DN Home signal for line no. 3 setting overlap on Main line.

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SL. NO.	BUTTON NO.	COLOUR	DESCRIPTION
6	L4/1 UN	White with Black dot	Common route button for UP and DN Home signals, UP & DN Calling-On signals and UP & DN shunt signals for line No. 4 setting overlap to sand hump on UP direction and to the end of track 39BT on DN direction.
7	L4/2 UN	White	Common route button for UP and DN Home signal for line no. 4 setting overlap on Main line.
8	L5/1 UN	White with Black dot	Common route button for UP and DN Home signals, UP & DN Calling-On signals and UP & DN shunt signals for line No. 5 setting overlap to sand hump on UP direction and to the end of track 39BT on DN direction.
9	L5/2 UN	White	Common route button for UP and DN Home signal for line no. 5 setting overlap on Main line.
10	L6/1 UN	White with Black dot	Common route button for UP and DN Home signals, UP & DN Calling-On signals and UP & DN shunt signals for line No. 6 setting overlap to sand hump on UP direction and to the end of track 39BT on DN direction.
11	L6/2 UN	White	Common route button for UP and DN Home signal for line no. 6 setting overlap on Main line.
12	L7 UN	White	Route button for SH-5E on goods siding line no 7.
13	L8 UN	White	Route button for SH-5F on goods siding line no 8.
14	SH UN	White	Common route button on shunting neck to facilitate shunting on shunting neck.
15	24A-UN	White	Common route button for DN starters 6, 8, 10, 12, 14 and 16.
16	21A-UN	White	Common route button for UP starters 7, 9,11,13,15 and 17.
17	21UN	White	Route button for UP advanced starter no.21
18	24UN	White	Route button for DN advanced starter no.24

1.5 CRANK HANDLE PUSH BUTTONS:

Sl no	CRANK HANDLE	CONTROL POINTS
1	CH-1	31 A/B, 33A/B
2	CH-2	35, 37
3	CH-3	39A/B, 41, 43A/B
4	CH-4	45A/B, 47
5	CH-5	32A/B, 40A/B
6	CH-6	34, 36, 38A/B

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1.6 MISCELLANEOUS PUSH BUTTONS:

SL No.	Button No	Colour	Description
1	SM's EMERGENCY POINT OPERATION KEY	---	This key is to be inserted and operated in the event of Emergency point operation
2	SM's PANEL KEY	---	To lock the control panel to prevent unauthorized operation
3	PANEL PC SWITCH	---	To give control of operation from panel to PC and vice versa
4	ACK FOR SYSTEM FAILURE	GREEN	To be pressed to silence system failure buzzer
5	GROUP TRANS PUSH BUTTON	WHITE WITH BLACK DOT	To be pressed to initiate slot of crank handle or LC gate operation along with concerned slot/Crank Handle/L.C.Gate button.
6	GROUP RELEASE PUSH BUTTON	WHITE WITH BLACK DOT	To be pressed to withdraw/Normalize the control of slot of crank handle or LC gate operation along with concerned slot/Crank Handle/L.C.Gate push button.
7	POINT GROUP NORMAL PUSH BUTTON	BLACK WITH RED DOT	To be pressed to initiate 'NORMAL' setting of point along with concerned point push button
8	POINT GROUP REVERSE PUSH BUTTON	BLACK WITH RED DOT	To be pressed to initiate 'REVERSE' setting of point along with concerned point push button
9	EMERGENCY ROUTE RELEASE PUSH BUTTON	WHITE WITH RED DOT	To be pressed for emergency Route Release
10	SIGNAL CANCELLATION PUSH BUTTON	RED	To be pressed for canceling a signal which is already taken 'OFF' or to release a route after passage of a train.
11	SIGNAL LAMPFAILURE /POINT FAILURE ACKNOWLEDGEMENT	RED WITH WHITE DOT	To be pressed for acknowledging signal lamp/point failure
12	EMERGENCY POINT OPERATION	BLACK WITH RED DOT	To be pressed to operate the point when concerned point zone track circuit failed.
13	BUTTON HELD ACKNOWLEDGEMENT PUSH BUTTON	WHITE WITH RED DOT	To be pressed for silencing button held buzzer in case of any push button remains pressed after the button is released.
14	UP TRAIN ARRIVED ACK PUSH BUTTON	CHOCOLATE WITH WHITE DOT	To be pressed for normalizing the Block instrument for section JDB-NKX.
15	DN TRAIN ARRIVED ACK PUSH BUTTON	CHOCOLATE WITH WHITE DOT	To be pressed for normalizing the Block instrument for section KMEZ-JDB.

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SLN o.	Button No	Colour	Description
16	LC CONTROL	CHOCOLATE	To be pressed for giving slot to LC gate.
17	EMERGENCY GATE RELEASE	CHOCOLATE WITH RED DOT	To be pressed for emergency gate release.

1.7 Power failure indication /Buzzer and power acknowledgement:

Power supply to the signaling installation is through integrated power supply system. The IPS is normally fed through AT supply. The 1st standby power supply is Chattshgarh state Electricity Board supply and 2nd standby is Diesel Generator. The available Local/DG supply is fed to the IPS through auto change over switch provided in IPS.

In the event of failure of the local power supply the SM on duty shall start the Diesel Generator. The power supply of the DG set is fed to the auto change over switch provided in IPS. The IPS system is connected with battery for safe working during transition of power. Remote monitoring ASM console for IPS is provided at SM's office which will give the following instructions.

	Instructions	Condition	LED indication	Remarks
A	Run DG set	50% DOD	Red	Auto/visual alarm. Alarm shall be acknowledged by SM on duty.
B	Emergency start	60% DOD	Red	Auto/visual alarm. Alarm shall be acknowledged by SM on duty.
C	System shut down	70% DOD	Red	Signal feed cut off and all DC-DC converters to work. Audio alarm will continue till Generator is started.
D	Call S&T staff	Equipment fault	Red	Failure of any module will give the alarm in SM's panel. Alarm shall be acknowledged by SM on duty for audio cut off.

1.7.1 LED SIGNAL FAILURE INDICATION (RED SIGNAL LAMP MUTING BUTTON: RED WITH WHITE DOT):

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(K.GANESH KUMAR)
DOM/PLG/WAT

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

1.7.2 VHLC INDICATION:

A VHLC (Vital Harmonic Logic Controller) indication is provided on the top of the panel for indicating which system of VHLC is working. This EI unit is consisting of two VHLC systems called system' A' and system' B. These two systems status (ON/OFF) will be indicated separately on the panel. If the VHLC indication is ON 'GREEN' indication will appear and if OFF 'RED' indication appears. If any one of the 'ON' line system fails automatically OFF line system will change to ON line with a gap of 180 seconds. A system failure buzzer is provided on the panel board to stop the VHLC unit buzzer. SM on duty has to press the system failure acknowledgement button provided on the top of the panel and intimate the same to ESM/SE/JE in charge for rectification of the failure. Whenever the system changes from A to B or B to A SM on duty has to release all crank handle, L C Gate controls.

1.8 POINT FAILURE INDICATION (RED)/POINT FAILURE BUZZER/POINTS FAILURE MUTING BUTTON (RED WITH WHITE DOT):

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

1.9 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.

2.0 EMERGENCY ROUTE RELEASE INDICATION (WHITE) EMERGENCY ROUTE RELEASE BUTTON (WHITE WITH RED DOT):

The Electronic interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route.

When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), the concerned signal must be put back to Danger

Page-9

by simultaneously pressing the signal cancellation button and concerned signal button. After this, first the emergency route release button (White

STATION WORKING RULES OF JAGDALPUR (JDB)

with Red Dot) positioned on the top of the panel to be pressed after breaking seal and subsequently the concerned signal button is to be pressed. A white light will be lit indicating that the timer is working. After a lapse of 120 seconds the white light along with the white strip of light will disappear suggesting that the route has been released. In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to release by rectifying the fault. It is to be ensured that after every emergency route release operation S&T staff shall seal the emergency route release button.

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 counter register and in the train signal register.

3. EMERGENCY POINT OPERATION (BLACK WITH RED DOT):

Emergency point operation facility is provided to operate the point from the panel in case of failure of point controlling track circuit. A push button (Black with Red dot) for emergency point operation is provided on the top of the Panel. If such operation is necessary, the SM on duty, after ensuring that SM's point Key is 'IN' and no vehicle is standing on the concerned point zone shall press the emergency point operation button (by breaking the seal) along with relevant point button simultaneously. Then keeping point button pressed, emergency point button to be released and the point group normal button or point group reverse button is to be pressed for operating the point to 'NORMAL or REVERSE. Every emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

Each emergency point operation is recorded in emergency point operation counter by registering the next higher number. SM on duty shall ensure sealing of emergency point operation button by S&T staff after completion of every such operation.

4.0 BUTTON HELD ACKNOWLEDGEMENT(WHITE WITH RED DOT):

All push buttons are self restoring type. A button held acknowledgement push button along with a white light is positioned at the top of the panel. When any point, route or signal button gets stuck up in pressed condition, a buzzer will sound along with flashing white light indication. The station master shall stop the buzzer by pressing the button held acknowledgement button (white with Red dot). The buzzer will stop but the flashing white indication of each point; route or signal will continue to glow until the pressed button is normalized. SM on duty shall try to find out the pressed button for normalization or otherwise inform the maintenance staff to rectify.

Page-10

5.0 OVER LAP TIME RELEASE(WHITE LIGHT):

(CH.SRINIVAS)
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STATION WORKING RULES OF JAGDALPUR (JDB)

Separate indications (white light) for each overlap is provided near the starter signal to indicate the free or locked condition of the overlap. This indication light will glow when overlap is locked by any Home signal route and there will be no light when the overlap is free.

The locked indication starts flashing when the approaching train clears the rear end point zone track and occupies the berthing track. After a time lapse of 120 sec the white flashing light will disappear indicating concerned overlap is free.

6.0 TRACK CIRCUIT:

Entire yard is track circuited from Home signal to Advanced starter on either direction. The following track circuits are provided in this yard.

1AT, 1T, 24AT, 31AT, 31BT, 33AT, 33BT, 35T, 39AT, 39BT, 41T, 45T, L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L3T1, L3T2, L3T3, L4T1, L4T2, L4T3, L5T1, L5T2, L5T3, L6T1, L6T2, L6T3, 40AT, 40BT, 36T, 34AT1, 34T, 32AT, 32AT1, 21AT, 2T and 2AT.

Indications for the above track circuits are available on Panel / VDU at SM's office. Normally the panel is blank except point and Block section indications for the above track circuits/ Axle counters are available on Panel/VDU at SM's office. When a signal is cleared the route indication 'Yellow' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

7. AXLE COUNTER:

Entire Block Section between JDB-NKX and JDB-KMEZ are provided with Electronic Axle counters.

For SEC: JDB-NKX:- A pair of digital axle counter is provided between JDB-NKX on DN line, one just beyond DN advanced starter no. 24 of JDB and another one on 2T track circuit of NKX.

FOR SEC: JDB-KMEZ: A pair of Digital axle counter is provided between JDB-KMEZ on UP line one just beyond UP Advanced starter signal no.21of JDB and another on 1T track circuit of KMEZ.

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

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

Page-11

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

STATION WORKING RULES OF JAGDALPUR (JDB)

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 APPENDIX-'B')

NOTE:

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

8. STATION MASTER'S PANEL CONTROL KEY:

The panel is fitted with Station Master's lock up key to prevent any unauthorized operation of the panel. The Station Master on duty is the only authorized person to operate the panel and the panel key must always remain in his custody vide SR 3.36.02 and GR 5.08. The key locks the panel board and no operations are possible. In case of emergency, signals can be put back to danger by operating concerned signal button and signal cancellation button without ASM's key also. However the provisions of SR 3.36.02 shall be followed while replacing signals also.

9. CRANK HANDLES:

When any point fails to operate normally by the route setting operation or through the concerned point button through panel, it is inevitable to operate the points with crank handle. Station Master on duty shall personally ensure clamping and padlocking all facing and trailing points enroute. Crank handles are interlocked with signals and interlocking system. The CH push button (Blue) and group button (White with Black dot) is provided at the top of the panel board. This button has two indications viz., WHITE and RED. The White indication suggests that the crank handle key is in its interlocked position of the panel. This is called "Crank Handle Key 'IN' indication.

The Red indication suggests that the crank handle key is locked and not free for extraction from RKT. This is called 'Crank handle key locked' indication.

For extracting CH key from RKT SM has to press relevant crank handle push button and group TRANS button simultaneously. The light white light besides the CH button starts flashing. After extraction of CH key from RKT at location box flashing white light disappears. On extraction of CH key from RKT, the points in that particular group can not be operated from the panel. After completion of point operation, the CH key will be retransmitted to the station electrically by inserting the CH key in RKT in location box and turned. The white flashing indication appears on the Panel board. The flashing will be stopped and steady indication appears on pressing concerned CH button and group release button (White with Black dot).

Crank handle control for operation of points:

Page-12

SL No	CRANK HANDLE	CONTROL POINTS
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(K.GANESH KUMAR)
DOM/PLG/WAT

STATION WORKING RULES OF JAGDALPUR (JDB)

1	CH-1	31 A/B, 33 A/B
2	CH-2	35, 37
3	CH-3	39A/B, 41, 43A/B
4	CH-4	45A/B, 47
5	CH-5	32A/B, 40A/B
6	CH-6	34, 36, 38A/B

9.1 SETTING OF ROUTE AND TAKING OFF RECEPTION SIGNALS:

For setting a route all the concerned points must be set by operation of relevant point button and group button one at a time in the desired position or by operating signal and route button. As soon as the required points are set to the required position, the concerned signal for the route will clear and a Yellow strip of light will appear on the route confirming that the route is set and locked. The signal 'OFF' indication will appear on the panel.

9.2 SETTING OF ROUTE AND TAKING OFF DEPARTURE SIGNALS:

For setting a particular route for departure of a train, all the concerned points must be set by operation of relevant point button and group button one at a time in the desired position or by operating signal and route button.

To take 'OFF' UP advanced starter signal no.21, UP LV section between JDB-KMEZ should be clear and Line clear must be obtained from the concerned Block section in advance. Then the concerned advanced starter signal button shall be pressed along with the concerned route button for two or three seconds and released. This will clear the Up advanced starter signal and a white strip of light will appear on the panel.

To take 'OFF' DN advanced starter signal no.24, DN LV section between JDB-NKX should be clear and Line clear must be obtained from the concerned Block section in rear. Then the concerned advanced starter signal button shall be pressed along with the concerned route button for two or three seconds and released. This will clear the DN advanced starter signal and a white strip of light will appear on the panel.

To take 'OFF' the starter signal the concerned signal button is pressed and at the same time common route button to be pressed for two or three seconds and released. This will clear the starter signal and a white strip of light will appear on the route from the concerned starter to advanced starter.

9.3 TAKING OFF CALLING ON SIGNAL:

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

Page-13

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal, occupying the track circuit (1AT, 2AT as the case may be) in rear of the Home signal. When a train occupies the track circuit a RED

STATION WORKING RULES OF JAGDALPUR (JDB)

light strip will appear on the Panel/VDU. 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/VDU. After the route is set, the Calling On signal button 'C-1(A-F)/C-2(A-F) (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 Yellow light glows at the concerned Calling-on signal on the panel.

10. RELEASE / CANCELLATION OF ROUTE:

Normally when a train is received or dispatched on any route, the route illumination will disappear automatically after passage of the train suggesting that the route is released.

NOTE:-

UP and DN calling on signals, UP and DN advanced starters are to be manually cancelled after the passage of the train to cancel the route.

11. REPLACEMENT OF SIGNALS TO ON:

Signals are replaced to 'ON' automatically by the operation of the first track in advance of the signal. It will not be possible to re-clear the signal again unless the due process for clearing the signal is repeated again. For replacement of any signal to 'ON' position manually, the respective signal button and signal cancellation button (RED) is to be pressed simultaneously.

12. INTERLOCKING OF SIGNALS/POINTS :

All running line points are fitted with point machines which have in built locking and are electrically detected by the relevant Home signals and starters.

- 12.1 Advanced starter signals are interlocked with respective Block instrument in LINE CLEAR position.
- 12.2 The Block instruments cannot be made to normal unless the respective Home is put back to 'ON' aspect and the respective block section monitored by axle counter is clear of trains.
- 12.3 Signals once taken OFF can be put back to ON in case of emergency by pressing the concerned signal button in conjunction with signal cancellation button even when the panel is locked up with Station Master's key.

Page-14

13. PILOTING OF TRAINS IN TO THE STATION YARD:

(CH.SRINIVAS)
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(K.GANESH KUMAR)
DOM/PLG/WAT

STATION WORKING RULES OF JAGDALPUR (JDB)

Whenever Home signal becomes defective, trains can be admitted by taking off calling-on signal. When both home and calling-on failed, then the trains will be piloted 'IN' in terms of SR 3.69.3(a) &(c)

The SM on duty shall nominate a clear line and shall set the nominated route correctly from the panel or shall advise the TPM on duty at station to set the nominate route with the help of crank handle during failure of points. The TPM shall set the facing and trailing points and clamp and padlock the same under the super vision of SM on duty at station in both the cases.

Then the SM on duty shall then hand over the written authority (T/369(3b)) to the TPM for "piloting IN" the train. While going towards home signal, the TPM shall check that the points have been correctly set, clamped and padlocked. After the train has been brought to a dead stop at the foot of the home signal the TPM shall hand over the PILOT memo to the Loco Pilot board the engine and display proceed hand signal to pass the defective home signal.

NOTE:

- 1) The station master on duty shall personally supervise the correct setting, clamping and padlocking of both end points for admission of a train.
- 2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty till such movement is either completed or alternatively cancelled.
- 3) The SM on duty shall ensure the closure of the interlocked gate supported by a private number from the gateman on duty.

13.1 PILOTING OF TRAINS OUT OF STATION YARD:

When starter signal has become defective, the SM on duty shall set the points correctly from the panel or advise the TPM to set the concerned points correctly for the outgoing train with the help of crank handle. The TPM on duty shall clamp and padlock both the facing and trailing end points under supervision of SM on duty in both the cases. He shall also advise the gateman to close the level crossing gate/gates on the route for dispatch of a train.

The SM on duty shall then authorize the TPM on duty to hand over the pilot memo T/369(3b) along with other authorities if any to the Loco Pilot of the train. Thereafter, he shall display proceed hand signal at the foot of the starter signal vide subsidiary rule 3.70.01.

Incase advanced starter signal becomes defective BWM 3.33 will be followed.

NOTE:

(1)The station master on duty shall personally supervise the correct setting, clamping and padlocking of both end points for dispatching of a train.

Page-15

(2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty till such movement is either completed or alternatively cancelled.

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(K.GANESH KUMAR)
DOM/PLG/WAT

(3) The SM on duty shall ensure the closure of the interlocked gate supported by a private number from the gateman on duty.

14. SHUNTING:

For back shunting SH3, SH-4 & SH-5 are provided in the yard for shunting back to the station yard in desired direction. The particular route on which it is intended to do shunting is to be set by operating the desired points individually from the panel or by pressing the shunt signal button and required route button simultaneously for 2-3 seconds. When the route is set and locked correctly white strip of lights will appear on the route and concerned shunt signal shall display 'OFF' aspect.

15. VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAINS INTO THE YARD:

In the station yard, a route on the running line comprises of entrance, berthing and dispatch portion of the yard and this portion of the yard should be clear of any obstruction for the passage of any train or for any other movements.

The clearance of the route including overlap must be ensured by the Station Master on duty personally through Luminous indications of the track before any movement of trains are permitted on the concerned route subjected to the other conditions such as locking of points etc.

16.0 CRANK HANDLING EMERGENCY OPERATION OF POINTS:

Crank handle operation is interlocked with the signaling and interlocking system at this station. Key of crank handles normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals leading over the points are in the Normal position and the route is not locked for whatever reasons. Crank Handle can be released by operating common 'TRANS' push button and concerned Crank handle control push button simultaneously. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted at both ends of the yard.

On account of the doubtful operation of any track circuit by a light vehicle including self propelled vehicle such as Motor trolley or light Diesel/electrical engine or tower wagon, indicating the occupancy of the track. It is necessary to satisfy SM on duty that the said vehicle has cleared point zone track circuits by observing the track indications on either side of the cross over.

17.0 EMERGENCY OPERATIONS:

The following are the instructions for emergency operations.

17.1 CANCELLATION BUTTON AND COUNTERS:

Page-16

17.1.1 For the purpose of the emergency operations there is an emergency Route cancellation button (provided at the top of the panel) and also there is a counter for counting emergency operations involving the concurrent

STATION WORKING RULES OF JAGDALPUR (JDB)

operation of the emergency route cancellation button. The Station Master on duty must press the emergency route button along with concerned signal button for which emergency route releases is desired. A yellow indication will appear below the signal indicating that the timer has started operating and after lapse of 120 seconds the desired route will be released provided all other conditions are favorable for the route release.

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

17.2 EMERGENCY OPERATIONS CANCELLATION THE LOCKING OF POINTS NOT RELEASED AFTER THE PASSAGE OF THE TRAIN FOR WHAT EVER REASON:

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

- a) Firstly, it must be ensured that the signal is in the ON position.
- b) Operation as detailed in Para 3.0 to be followed.

18.0 LOCKING OF RELAY ROOM:

The relay room shall be locked with a double lock which can be opened only after both the keys are inserted and turned. One key of the lock shall be kept with the Station Master on duty in his custody and other with Maintainer. Whenever required for maintenance, the key in the custody of Station Master shall be given to the Maintainer. After completion of the work the Maintainer be properly recorded in relay room register maintained at the station and duly signed by the Station Master and the Maintainer concerned as per OM 1.14. In addition, the Station Master shall also observe SR 3.51.05.

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

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

Page-17

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

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(K.GANESH KUMAR)
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STATION WORKING RULES OF JAGDALPUR (JDB)

In case of failure of any interlocking gear at the station, the failure report should be communicated by the Station Master on duty through a memo to the Sectional Maintainer and the Signal Engineer of the Section and others as per G& SR 3.51.04 and 3.68.04 and document all such transactions.

20.1 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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

20.2 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

After receipt of this information, the sectional maintainer shall attend to the failure after giving a disconnection memo. After rectification of the fault the sectional maintainer shall give a reconnection memo detailing rectification. Thereafter the Station Master on duty shall personally check the defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective gear in terms of SR 3.64.04 (c) and (d).

21. PROCEDURE FOR CARRYING OUT PLANNED MAINTANANCE WORK:

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

22. EMERGENCIES:

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

Page-18

23.0 PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNALS AND POINTS AND USE OF CRANK HANDLE:

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STATION WORKING RULES OF JAGDALPUR (JDB)

- 23.1 When crank handle key is removed from RKT for operation of the defective motor operated points, the responsibility for its safe custody rests with the Station Master on duty, till it is replaced back to RKT.
- 23.2 The cases of failure of Motor Operated Points should be promptly reported to the Concerned Signal maintainer /Signal Inspector for immediate rectification.
- 23.3 Whenever an emergency Crank handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty; will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the concerned Points will be treated as defective till the Emergency Crank Handle is returned back to the Station Master on duty.
- 23.4 Before parting with the emergency crank handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to ON position. The Points for the affected lines shall be treated as Non-interlocked. The Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.
- 23.5 The Emergency Crank Handle Register is to be maintained vide OM 20.06 note (d) by the Station Master on duty wherein the particulars of usage of the Emergency Crank Handle must be recorded.

24.0 SUSPENSION OF LAST STOP SIGNALS:

- 24.1 When the Block Instrument is suspended with its handle in 'TRAIN GOING TO' position for whatever reason, the concerned Last Stop Signals controlled by the Block Instrument must be treated as suspended and trains shall be worked on PLCT.
- 24.2 The Station Master on duty shall not grant LINE CLEAR unless he has ensured that the lamps of fixed signals which apply to the trains are glowing. If the Signal Lights are not glowing the Station Master on duty shall before giving LINE CLEAR shall initiate action in accordance with the procedure prescribed in GR 3.68 to 3.71 and relevant SR's vide GR 3.49(4).

Page-19

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

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STATION WORKING RULES OF JAGDALPUR (JDB)

- 25.1 Axle counters are provided on UP and DN lines between JDB-KMEZ and JDB-NKX Single line section for Block proving.
- 25.2 The occupation and clearance of the axle counter section are indicated on panel by 'Red' and 'Green' lights.
- 25.3 If any Block proving Axle counter section fails, the Last stop signal at the rear station can not be taken 'OFF' and Block instrument at advance station can not be turned to "Line Closed" position after arrival of a train and in such case, resetting of last vehicle checking device is to be resorted to in either section.
- 25.4 Even after completion of reset operation, LVCD Axle counter will show clear only if next train is passed. The next train is to be piloted.
- 25.5 No train should be allowed on signal to leave a station in any particular direction unless:-
Track clear indication is available for the relevant axle counter track circuited portion and Last stop signal is not taken 'OFF'.
- 25.6 A resetting arrangement for the resumption of the track circuit by means of axle counter under failure condition 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 at the receiving station and is certified in this respect by the SM at the receiving station through exchange of Private Number.
- 25.7 Reset arrangements are provided in the Reset Box in the SM's office for Sections JDB-KMEZ and JDB-NKX. The key for the Reset Box should normally be kept with SM. And for every such operation of the resetting the Axle Counter, the SM on duty shall record giving details of the date of use, train number, time, and number registered on the counter and reasons for resetting and initial each such entry.

26.0 RESETTING OF LVV DIGITAL AXLE COUNTER:

i) Whenever after complete arrival of train, the LVV axle counter continue to show 'RED' on the panel board, the on duty SS/SM at both ends of the section shall resort to reset the axle counter. For this purpose SS/SM at receiving end shall first verify that Block section is clear of trains. If the failure has occurred after arrival of train, SS/SM shall obtain signature from the guard of stopping train on the train intact register (vide GR &SR 4.17, 4.17.01) or by exchanging signal with the guard of through train, so that he can ensure that the train has arrived completely before resorting the LVV axle counter. SS/SM of receiving end shall inform the failure of axle counter to on duty SS/SM of dispatching end for UP/DN section.

ii) SS/SM at receiving end then sends an operating person to verify that the last vehicle is clear of Block section. After verifying the clearance of last vehicle of concerned block section, the operating person exchanges private number and press the button in the LVV box.

iii) On exchanging private number the SS/SM at both ends will insert the reset key for corresponding section and shall press the nominated reset button. By this operation LVV axle counter will reset and associated counter will change to next higher number at both ends.

iv) SS/SM at both ends shall record the counter number so changer due to reset of axle counter in the reset register and also in the Train signal register

page-20

mentioning the purpose of reset. After the reset operation is completed preparatory reset indication will appear on reset box at both ends which suggests that the reset operation is successfully completed and the first train

STATION WORKING RULES OF JAGDALPUR (JDB)

has to be piloted out. On arrival of the piloted train the axle counter track cct zone of the section shows clear and normal working shall be resumed. Even after arrival of piloted train, LVV axle counter zone does not show clear indication, S&T staff to be informed for getting rectified the failure of axle counter.

v) It is mandatory that every reset operation of LVV axle counter first train after reset process shall have to be piloted out.

27. SIGNAL LIGHTS:

The station Master on duty at 00.00 hrs (2nd shift) must also ensure from panel board that all the signal lights are glowing properly and brightly. This fact must be recorded in the Diary under a separate entry and confirm to the section controller on duty.

28. CORRECTING TIME IN STATION CLOCK:

The station Master shall set the time in his clock according to the time signal given by the section controller on duty at 16.00 Hrs every day according to GR and SR 4.01.01 and 4.01.02.

29. TELECOMMUNICATIONS:

- (a) Telephone attached to Token less Block Instruments is connected to adjacent stations on either side.
- (b) Hot line Telephone communication is provided between adjacent stations.
- (c) The station is connected to KRPU-KRDL control Circuit.
- (d) The station is connected to KRPU-KRDL traction power control circuit.
- (e) Telephone communication is provided between Station Master on duty to UP CH locations and to DN CH Locations.
- (f) Telephone communication is provided between Station Master on duty to 'A' class Engineering LC gate at km 294/13-14 between JDB-NKX (LC no KK-83).
- (g) Telephone communication is provided between Station Master on duty to 'C' class Engineering LC gate at km 290/1 between JDB-NKX (LC no KK-82).
- (h) Telephone communication is provided between Station Master on duty to 'C' class Engineering LC gate at km 297/18 between JDB-KMEZ (LC no KK-84).
- (i) 25w VHF set is provided at the station for emergency communication.
- (j) BSNL telephone is provided at this station.

Page-21

APPENDIX 'B1' TO STATION WORKING RULES OF JAGDALPUR STATION VISUAL DISPLAY UNIT (VDU)

(CH.SRINIVAS)
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DOM/PLG/WAT

1. SYSTEM OVERVIEW:

The PC-based control cum indication panel (*hereinafter referred as operator VDU*) functions similar to that of the Conventional Control cum Indication Panel (*hereinafter referred as CCIP*) for the operation of Signals, Points, L.C Gates, Crank Handles and Siding Controls, etc. The SM of a station (*hereinafter referred as operator*) required to be familiar on the specific station's SWR (station working rules).

An operator VDU consists of CPU with a colour monitor, keyboard and pointing device (mouse). Through serial communication the exchange of control and indication messages takes place between VHLC and operator VDU. The Software is installed to display the Station Yard Mimic Panel diagram on the operator VDU and it allows access to all functions by clicking buttons.. By clicking the button of the pointing device (mouse) the function (Signal clear and cancellation, Route release, Point operation, Gate release etc.,) can be executed.

The operator VDU or CCIP may be used for controlling and monitoring the station, however, indications on the Station yard mimic diagram of operator VDU and CCIP will be dynamically updated.

2. CCIP / OPERATOR PC – MODE SELECTION:

For the stations having both Operator PC and CCIP, the privilege has been given with the operator to control the station through operator PC or CCIP. Obviously, the station having only operator VDU or CCIP doesn't possess the selection feature.

The operator VDU is having controls to operate the field gears from the Mimic panel diagram. A Mimic panel diagram displayed on the operator VDU will be an exact replica of the CCIP and suits the yard plan as per SI plan.

2.1 SM KEY:

SM KEY IN operation can be achieved through operator PC as follows:

Operator shall click on the **SM KEY** icon, which will enable the password window to appear. After the valid entry of user name and password the SM KEY IN operation will be enabled.

Page-22

SM KEY OUT operation can be achieved through operator PC as follows:

STATION WORKING RULES OF JAGDALPUR (JDB)

Operator shall click on the **SM KEY** icon, which will enable the password window to appear. After the valid entry of user name and password the SM KEY OUT operation will be enabled. This will lock all the controls in operator VDU except the Signal cancellation facility.

2.2 OPERATOR VDU / CCIP – MODE OF OPERATION:

A two-position switch is provided on the CCIP along with the SM's Key. Selection of Panel or operator VDU is performed through this switch, which is denoted as **PANEL/ PC SWITCH**.

The operator can select Panel or PC mode of operation and certain procedures to be followed for transferring from one mode to another. The procedure to be followed are as mentioned below.

2.2.1 CCIP TO Operator VDU CHANGE OVER:

1. Switch on the operator PC. The operator PC control screen will open automatically.
2. Single left click on the PC REQ switch to enable the PC Mode. Operator PC control indication starts flashing.
3. Change the position of the PANEL-PC key in the panel to operator PC control. PC control indication becomes steady once the key turned to PC control. At this point, PC MODE has been enabled and PANEL MODE has been disabled.
4. For further operations, single left click on the SMKEY IN in the operator PC. It prompts for the password. (The pass word is secret key to the operators only).

5. Panel failure:

In case of failure in the operator panel, the operator PC must be turned on to take over the controls. After getting the screen in the PC, kindly repeat the above steps from 2 to 4.



2.2.2 OPERATOR VDU TO CCIP CHANGE OVER:

1. Change the position of the PANEL-PC key to PANEL control. Panel control indication starts flashing once the key turned to PANEL CONTROL.
 3. Single left click on the PC ACK switch in the operator PC to acknowledge the PANEL control request. After acknowledging, the PANEL MODE will be established and the PANEL control indication will be steady.
3. Now the controls are transferred to PANEL. Make sure the SM KEY is IN before initiating any commands.
4. **PC Failure:**

In case failure in the Operator PC, the Operator Panel Control indication will be flashing in the Operator panel. After getting that flashing indication, the PANEL-PC key must be turned to PANEL to take over the controls.



3. **CONTROL(S) & INDICATION(S):**

3.1 VHLC SYSTEM INDICATIONS:

In Panel / PC there are two system indications, Green indication mentioning the On-line system and the Red crossed indication mentioning the off-line system.

3.2 VDU FAILURE INDICATIONS:

In the screen whenever the communication fails and the VDU screen is not active all the signals, points and Tracks will appear in grey color and the Error message will be flashing in Bottom Right-corner of the screen.



And whenever the communication resumes the above Error message will disappear and the screen will be in active mode.

3.3 VDU ACTIVE INDICATIONS:

Whenever the VDU is in active condition a RBG sequence will be running in the top right corner of the screen. That is in a flashing sequence in the screen.

3.4 SYSTEM TRANSFER OPERATION:

PROCEDURES:

Transfer circuit is used to change the NORMAL system to STAND BY or vice versa manually or automatically. This unit consists of 3 position (AUTO, NORMAL & STAND BY) rotary switch, NORMAL & STAND BY system ON/OFF indications, timer relays and vital relays. The operation of the circuit is given below.

AUTO- Transfers the EI system to STAND BY when NORMAL failed or vice versa.

NORMAL-(A) – Forces operation to NORMAL, no transfer is allowed. At this time NORMAL system ON (Green) and STAND BY system OFF (Red) indications will illuminate.

STAND BY (B) – Forces operation to STAND BY system, no transfer is allowed. At this time STAND BY system ON (Green) and NORMAL system OFF(Red) indications will illuminate.

When the NORMAL system is failed, the STAND BY system will come for operation after 180 seconds (3minutes) or vice versa , which includes the system boot up time of 60 seconds and approach locking time of 120 seconds.

During the system boot up time of 60seconds, all the settings, card functionalities and application programs has been verified by the VHLC system. At this point of time, panel will be blank and no operation is possible.

After performing all the diagnostic checks, the system will be ready. But the operations are not allowed either from PANEL or PC for 120 seconds.

DIAGNOSTIC MODE OPERATION:**PROCEDURES:**

Diagnostic mode operation circuit is used to switch on the STAND BY system, for maintenance of diagnostic purpose without disturbing the NORMAL system. The circuit has 2 position (DIAG-ON & DIAG-OFF) rotary switch, DIAG-ON & OK indications and vital relays. To switch on the STAND BY system for maintenance or diagnostic purpose, the 3 position transfer switch must be in the running system (not in AUTO position). The operation is given below.

DIAG-ON – Switch on the STAND BY system for maintenance or diagnostic purpose.

DIAG-OFF – Switch off the STAND BY system, switched on for maintenance activities.

For example, when the NORMAL system is working, the STAND BY system can be powered on by placing the 3 position transfer switch to ON LINE., (which ensures the interlocking control done by NORMAL system) and turning the DIAG-ON switch to ON position.

At this time the STAND BY system (STAND BY), gets 12v DC power and DIAG-ON indication will illuminate.

Once the system stabilizes the DIAG-OK indication will illuminate ensure that the STAND BY system is ready. Though both the systems are ON, the interlocking is processed by NORMAL system only.

After completing the activities at the STAND BY system, it must be retained to OFF condition by placing the DIAG switch to OFF position.

Keep the 3 position transfer switch to AUTO position.

4.0 SIGNAL OPERATION:

In order to take-off a signal with the desired route the operator needs to click the mouse on the concerned signal button on the operator VDU. After clicking the Signal button, the concerned route button is to be clicked.

(a) SETTING A ROUTE:

To set a route, the above mentioned operation has to be carried out; the route-initiated indication will appear over the route. And all the relevant points Normal/Reverse set indications will start flashing if it is not available in the required position. After setting of point in the route required condition (flashing indication will be steady) a complete yellow route set indication will appear over the route. Also the point lock indication will appear through red indication. Finally a route lock yellow steady indication will appear on just below the signal. The signal will be taken-off now. The yellow route set indication will turn to red when the train occupies the concerned track circuit.

5.0 CANCELLING A ROUTE/ EMERGENCY ROUTE RELEASE:

To cancel a signal route when the route is set and the signal is taken-off, click on the signal button of the concerned signal & EGGN button, the signal will immediately go to ON aspect. Apply Route release for the concerned signal as followed in the CCIP, the concern signal route locked indication will start flashing for 120 sec, After the completion of 120 sec the locked route will be released and counter placed for the route release on CCIP will change to next higher digit number.

6.0 CALLING-ON SIGNAL OPERATION:

In order to take-off a calling-on signal with the desired route the operator needs to click the concerned signal button on the operator VDU. After clicking on the Signal button click on COGGN button then the concerned route button is to be clicked.

7.0 SETTING A CALLING-ON ROUTE:

The calling-on will be effective when calling-on Track occupied. To set a route, click one of the possible routes for the concerned signal; the route-initiated indication will appear over the route. And all the relevant points Normal/ Reverse set indications will starts flashing if it is not available in the required position. After setting of point in the route required condition (flashing indication will be steady) a complete yellow route set indication will appear over the route. Also the point lock indication will appear through red indication. Finally a route lock yellow steady indication will appear on just below the signal. The signal will be taken-off after 120-sec indicating a signal timer will flash and becomes steady once 120-sec completed. The yellow route set indication will turn to red when the train occupies the track circuit.

8.0 CANCELING A CALLING-ON ROUTE/ EMERGENCY ROUTE RELEASE:

After passing of train then cancel a signal when the route is set. Apply the **EMERG ROUTE RELEASE BUTTON** and Apply Route release in the concerned signal. The concerned signal route locked indication will start flashing for 120 sec, after the completion of 120 sec the locked route will be released and counter placed for the Calling-on route release on CCIP will change to next higher digit number.

9.0 SHUNT SIGNAL OPERATION:

Shunt signal route set and cancel operation follows the same procedure as mentioned for the main signal.

10.0 POINT OPERATION:

To operate the point, the operator needs to click the concerned point's Normal/Reverse indications on the operator VDU, after clicking by the concerned Point button on the mouse.

(a) REVERSE TO NORMAL OPERATION:

Click on the **NORMAL** group button (NWWR), a Normal flashing indication will appear, the indication will be steady after the point is set to Normal.

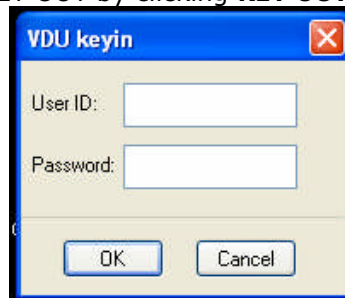
(b) NORMAL TO REVERSE OPERATION:

Click on the **REVERSE** group button (RWWR), a Reverse flashing indication will appear, the indication will be steady after the point is set to Reverse.

(c) EMERGENCY NORMAL OPERATION:

When the point zone track circuits / axle counters failed without any point lock condition through respective signal route(s), a point can be operated by the Emergency Point operation.

Before doing the emergency operation the emergency point operation key to be KEY IN by clicking the **KEY IN** button, after the completion of the emergency point operation, the key to be KEY OUT by clicking **KEY OUT** button.



Click on the **EMERGENCY POINT OPERATION** button and concerned Point button and then the **NORMAL** group button (NWWR), a Normal flashing indication will appear, the indication will be steady after the point is set to Normal. After the Emergency point operation the counter placed on CCIP will change to next higher digit number.

(d) EMERGENCY REVERSE OPERATION:

When the Point zone track circuits / axle counters failed without any point lock condition through respective signal route(s), a point can be operated by the emergency point operation.

Before doing the emergency operation the emergency point operation key to be KEY IN by clicking the **KEY IN** button, after the completion of the emergency point operation the key to be KEY OUT by clicking **KEY OUT** button.

Click on the **EMERGENCY POINT OPERATION** button and concerned Point button and then the **REVERSE** group button (RWWR), a Normal flashing indication will appear, the indication will be steady after the point is set to Normal. After the Emergency point operation, the counter placed on CCIP will change to next higher digit number.

11.0 CRANK HANDLE & SIDING CONTROL OPERATION:

To Transmit or Release control of the Crank Handle, click on the concerned Point button and Crank handle / Siding control button provided on the operator VDU.

For Transmitting the Crank Handle KEY to the field personnel, the operator has to click the concerned Point button and **Transmit control** button. 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 Manual point operation is over, after putting the KEY in the EKT, A KEY IN flashing indication will appear on the panel. Now the operator has to Release the control for the steady indication by clicking the concerned Point button and **Release control** button.

A Crank handle locked indication will appear, when the particular point is locked through respective possible signal route(s).

12.0 Function Lock & Unlock Operation Details:

Lock/Unlock Operation and Indication:

Lock Operation allows disabling of operation for the selected functions. The Operations can be enabled again by unlocking the locked function operation.



Lock Indication:

Default Indication (When nothing is locked or no menu item is checked)

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Lock Indication (When any one item is locked or menu item is checked)

Lock or Unlock Operation:

Right Click on this image, a popup menu is displayed this menu is called Button Lock/Unlock Menu. To Lock or Unlock the required button go to the required menu and click on it. This shall be explained in detail below.

Lock/Unlock Menu:

OPERATION

Main Signal
Shunt signal
Calling-on
signal
Point
Route

- Click on this menu option to lock /unlock all the items in the menu.
- When a menu option is clicked, it will be checked i.e. a tick mark will be shown if it is previously unchecked or else it will be unchecked if it is previously checked.
- If a menu item is checked its main menu or parent menu will also be checked as shown below and color of Lock/Unlock image will be changed to yellow.

13. RESETTING OPERATION FOR DIGITAL AXLE COUNTER:

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

The receiving station shall inform the sending station as to whether the last train that entered into the section has arrived or not. And, if arrived fully shall so intimate authenticated by exchanging Private number with the sending station. The status of the section LVCD i.e. Clear (GREEN), occupied (RED), preparatory reset (GREEN) and power on indications (WHITE) are provided in the reset box.

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

- A. On being advised by SM-JDB, SM-NKX/KMEZ inserts the key in the Reset Box, turns right and presses both the key and the Push Button (Red) simultaneously with the SM-JDB. The Counter on the Reset Box at JDB and NKX/KMEZ registers the next higher number and after five seconds miniature green Preparatory Reset indication appears on the Reset Box both at JDB and NKX/KMEZ. The step by step procedure shall be followed as given in "B" to "I".
- B. SM/JDB and NKX/KMEZ shall then insert SM's LV reset key, and turn right.
- C. Press LV reset button provided on the panel.
- D. Release SM's LV reset key and reset button.
- E. Turn left the SM's LV reset key and remove it.
- F. The system obtains preparatory reset state and preparatory reset indication (Green) glows on the panel. The counter reading increases by one count after a gap of 5 seconds approximately.
- G. The counter reading should be recorded.
- H. One train is to be piloted in the section to make the system normal.
The SM on duty shall record it in the Train Signal Register indicating the resetting operations in detail i.e. train number, time, Private Number exchanged with SM of sending station and giving reasons for the resetting operation.
- I. If the axle counters functioning properly now, then Block Section cleared indication 'G' will appear on the panel and the concerned Block working will be normalized.
- J. If the LV axle counter section indication does not appear 'Green' and continues to show 'RED' indication, the concerned Block section shall be suspended and failure intimation to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

APPENDIX 'C' TO STATION WORKING RULES OF JAGDALPUR STATION
ANTI COLLISION DEVICE [[RAKSHA KAVACH]:

-NIL-

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APPENDIX 'D'**DUTIES TO BE PERFORMED BY THE STAFF AT JAGDALPUR STATION:****1) STATION MASTER (IN CHARGE):**

He is the over all In-charge of the station. He is rostered for 8 hours and train passing duties. He is responsible for the efficient discharge of duties devolving upon all the Staff employed at the station whether permanent or temporary according to Station Working Rules, Manuals & safe working Instructions. He shall get himself well conversant with the detailed working of Station and panel, points and signals etc.

He shall conduct surprise night inspection and safety meetings/fire drills etc. as per instructions issued from time to time. He shall see that all the staff under his control working safely according to the rules in force.

He shall see that all signals, points, level crossing gates and the whole machinery at the station are in proper working order. He shall report all the defects to the concerned officials.

He shall satisfy himself that the staff employed under him are well conversant with Station Working Rules and perform their duties correctly. He is responsible for maintaining SWR, other Rule books and Assurance Register up to date.

He shall see that all safety records are maintained properly and all rules prescribed in G & SR, Block Working Manual, Operating Manual and other relevant directions issued from time to time by competent authorities are followed rigidly by all concerned and any irregularities if noticed are reported promptly to the authorities concerned.

He shall see that all accidents are promptly reported, attended to and GA-3 along with accident message is submitted to the concerned officers in time. He shall see that the staff is civil and helpful to all users of railway.

He is responsible for booking all Group "C" and Group 'D' staff for PME and Refresher Course / Safety camp in their due time. His Special attention is drawn out to chapter II of General and Subsidiary Rules and GR 5.01 to 5.08 with relevant Subsidiary Rules, Chapter – XXII of Operating Manual.

2. SM/ASM:

He is responsible for trains passing during his shift. He shall promptly bring to the notice of Station Master all irregularities & accidents in course of his shift duties. During the absence of station master the duties of station master will devolve on him. He shall follow SR 3.08.01 © & (d), SR 14.07.01. HIS SPECIAL ATTENTION IS DRAWN TO CHAPTER-II of G&SR 2000 & GR 5.01 to 5.08 with relevant SRs. As an assistant to the station master, he shall carry out the instructions given to him by the station master. He should have thorough knowledge in PC operation, operations of points and signals to PC are to be given priority.

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3. TRAFFIC POINTSMAN/TOKEN PORTERS:

He shall work under the orders of Dy.SS/SM on duty. He shall couple and un couple vehicles under the supervision of Dy.SS/SM/Guard. He shall operate ground lever/levers and clamp and pad lock the necessary points for shunting operations and during piloting of trains. He shall watch and guard the packages and Rly property lying in the station premises. He shall be thorough with the correct usage of displaying hand signals. He shall report to SM on duty any irregularities coming to his notice. He shall do loading and un loading of parcels, smalls and Guard boxes. He shall carry out any other duties entrusted to him.

4. SAFAIWALA-CUM LAMP MAN:

He shall attend to sanitation of Railway premises including SM's office, platforms, staff quarters, and latrines and cleaning of drainages etc., He shall carry out any work instructed to him by Dy.SS/SM on duty.

NOTE: All staff should be in uniform while on duty and follow the rosters issued by Sr.DPO/WAT from time to time.

STATION WORKING RULES OF JAGDALPUR (JDB)

APPENDIX 'E' TO STATION WORKING RULES OF JAGDALPUR 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	Battery operated LED based flashing Hand Signal lamps	3(1 spare)
3	Hand Signal Flags	3(1spare)sets
4	Safety chains with Pad locks	6
5	Clamps with Padlocks	8
6	Reminder collars	6
7	Fire Extinguishers DCPT	1
8	Fire & Sand buckets	5
9	First Aid Box	1
10	Stretcher	1
11	Blanket	1
12	Iron skids	2

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**APPENDIX 'F' TO STATION WORKING RULES OF JAGDALPUR
STATION]**

WORKING OF D.K.STATIONS, HALTS, IBS AND OUTLYING SIDINGS:

---NIL----

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APPENDIX- 'G'

JAGDALPUR STATION

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS:

DETAILS OF WORKING RULES OF 25KV AC TRACTION.

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