East Coast Railway
Waltair Division

Station Working Rules
Of
JARATI (JRT)

East Coast Railway / Waltair Division

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Index of Correction Slips

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EAST COAST RAILWAY
WALTAIR DIVISION

STATION WORKING RULES OF JARATI STATION (JRT) (BROAD GAUGE)

No.WTP/5/SWR/JRT Date of Issue: **12.09.2023**
Date brought into force:

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

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

1.0 STATION WORKING RULE DIAGRAM

i) Station working diagram No : SI -23062 Alt-'B'
ii) CSTE/E.Co.Rly/BRG No : SI -23062 Alt-'B'
iii) Date upto which corrected : **11-09-2023**

2. DESCRIPTION OF THE STATION:

2.1 a) GENERAL (LOCATION):

i)	Name of the Station	:	JARATI (JRT)
ii)	Class of Station	:	'B'
iii)	Section	:	Kottavalasa – Kirandul
iv)	Double/Single line	:	Single Line
v)	Electrified/non electrified	:	Electrified
vi)	Guage BG/MG/NG	:	BG
vii)	Railway	:	East Coast Railway
viii)	Route	:	'D'
ix)	Situated at KM	:	KM 205.946
x)	From	:	Kottavalasa
xi)	No. of Cabins	:	Centrally Operated Panel Board

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

	Adjacent Block Station	Distance	Direction
A)	MVF (Signal No 12 (JRT)	9.707 KM	Kottavalasa Side
	MVG (Signal No 11 (JRT)	11.405 KM	Kirandual Side
B)	Provision of IBS	Nil	
C)	Automatic Signals	Nil	
D)	DK Station & Out Lying Siding	Nil	

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

Between Stations	The Point from which the "Block Section" Commences	The Point at which "Block Section" Ends
JRT-MVG	Up Advanced Starter No 11. of JRT	Down Advanced Starter No 12 of MVG
JRT-MVF	Down Advanced Starter No 12 of JRT	Up Advanced Starter No 11 of MVF

2.4 GRADIENTS :

From Center of the Station building

Section towards	Chainage		Stretch (m)	Gradient on falling or raising.
	From	To		
Towards KTV End	0.00	569.70	569.70	1 in 260 Raising
	569.70	4531.00	3962.30	1 in 100 Raising
	4531	Into Section	-	1 in 150 Raising
Towards KRDL End	0.00	806.90	806.90	1 in 260 Falling
	806.90	1754.00	947.10	1 in 99 Falling
	1754.0	3163.00	1364.00	1 in 100 Falling
	3163	Into Section	-	1 in 130 Falling

2.5 LAY OUT:

i) Number of Running Lines : 3 (Three)
Line 1 (1st Loop)
Line 2 (Main Loop)
Line 3 (2nd Loop)

ii) Non-Running Lines
i) Hot Axle Siding
ii) Slip Siding

iii) **Siding**

a) **HOT AXLE SIDING (KTV) END**

A Hot Axle siding of 36.22 Mts. CSL takes off from Line No. 1 at KTV end of the yard and is isolated by derailing switches at both ends. The entrance point and the corresponding derailing switches are coupled and operated by Arc levers provided at site at either end. When Control No 27 is transmitted from Panel a key will be released from the RKT provided in a Location box near to the siding. The released key can be used for setting the both side points to Hot Axle siding.

After the movement is completed the Hot axle siding point shall be made normal and the released key from the Normal position of the Hot Axle siding will be transmitted back to Panel. During the release of Control No 27 from Panel, the UP and DN reception signals and DN starter signal No.6 of Line No I will be held Locked in their Normal position.

b) **SLIP SIDING**
A Slip siding is provided at the KRDL end of the yard. It normally remains set for the Slip siding. The slip siding point is operated by point Button No 22 when the Block instrument for section JRT-MVG with its handle either in 'Train Going To' or 'Train Coming From' position. . Block instrument of JRT-MVG section can not be made Normal until and unless the Slip siding point is restored to Normal position.

c) A rail level passenger platform is provided with a measurement of 244 M x 6.0 M on line No. 1.

2.5.1 RUNNING LINES / DIRECTION OF MOVEMENT AND HOLDING CAPACITY.

a) All the three lines are running lines with the holding capacity

Sl	Running Lines	CSL	Electrified/ Non Electrified
1	Line 1 (1st Loop)	720 Meters (STR to STR)	Electrified
2	Line 2 (Main Line)	706.5 Meters (STR to STR)	Electrified
3	line 3 (2nd loop)	721.8 Meters (STR to STR)	Electrified

b) **Direction of Movements**: Trains coming from MVF and proceeding towards MVG are UP trains. Trains coming from MVG and proceeding towards MVF are DN trains.

2.5.2 NON RUNNING LINES AND THEIR CAPACITY IN CSR.

Name of Non Running Lines	CSL
Hot Axle Siding (KTV End)	36.22

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT.

Slip Sliding

A slip siding is provided at KRDL end of the yard beyond down advanced starter signal. The slip siding point is controlled by Point Button No 22 from panel situated in SM's office. The slip siding point sets to running line by the operation of 11 UN button along with concerned signal button when the handle of the block instrument for section JRT-MVG is in "Train going to" position or by operation of any one of the route buttons i.e. LI UN or L2 UN or L3 UN along with DN Home signal button when the block instrument of the above section is in "Train Coming from" position. The slip siding point sets to its normal position automatically after the complete passage of the train past the slip siding track in either direction.

The slip siding point can also be set to the running line by the operation of point button No. 22 and common group point button 'R' or 'N' to perform shunting towards KRDL end of the yard when the section JRT-MVG is blocked back by obtaining line clear. The slip siding point can also be set by utilizing crank handle for shunting purpose when the block instrument is in "lines closed" position.

2.6 LEVEL CROSSINGS:

Nil

3.0 SYSTEM & MEANS OF WORKING

i) System of working: Absolute block system working

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), 14.09 to 14.11, 14.12, 14.13 and BWM Chapter-IV part I either direction.

ii) **BLOCK INSTRUMENTS:**

Single line Daido type Token less block instruments are provided for block Section JRT-MVF and JRT-MVG 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)

The Station Master on duty is responsible of the block instruments and the keys of the instruments must be under personal custody of the SM on duty vide GR 5.01(4), 14.12(l)(a)(l) and GR 5.08.

iii) **TRAIN WORKING AND MOVEMENTS OF TRAINS:**

Movement of trains is regulated by the Section Controller on duty whose orders must be carried out provided they do not in any way contravene any G&SR, BWM, OM and SWR and any other safe working principles vide OM 2.14. In the event of suspension of control working, the station Master on duty shall work independently in conjunction with the Station Master of the adjacent block stations and shall be responsible of safe reception/despatch of trains. He shall ensure that preference is given to important trains and at the same time without causing undue detention which occurs to other trains.

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING:

4.1 a) Standard of Interlocking: Standard. III

b) Equipment of Signals: MACLS.

c) Method of operation: Points and signals are operated from central SM's panel board.

d) Provision of Axle Counter/Track Circuits on running lines: Axle Counters are provided between JRT-MVF for proving LVV as BAXT(MVF) and JRT-MVG for proving LVV as BAXT(MVG). Track circuits are also provided in the yard as 1AT.1T, 2AT, 2T, 11AT, 12AT, L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L3T1, L3T2, L3T3, 21 AT, 21BT, 22T, 23BT, 24AT, 24BT, 26BT

e) Calling on Signals: Calling on signals are provided below both UP and DN Home signals.
IBS: NIL

f) A Panel board installed in the SM's office for operation of points, signals and crank handle control etc with a locking arrangement in order to prevent unauthorised accessibility to panel operation. The lock effects the panel locking either in normal position or operating positions.

4.2 CUSTODY OF RELAY ROOM KEY/RELAY HUBS/GOOMTIES/GATE GOOMTIES/CABIN HOUSING ETC. AND PROCEDURE FOR ITS HANDING OVER AND TAKING OVER BETWEEN STATION MASTER AND S&T MAINTENANCE STAFF:

Custody of Relay room key/relay hubs/goomties/Gate goomties/cabin housing and procedure for its handover and taking over between SM and S&T staff has to follow the procedure as per JPO issued by COM and CSTE vide No. JPO/02/2012 dated 29.08.2012 and JPO issued by AM/Traffic & AM/Signal vide No. 2021/Sig/21/Safety Performance dated 10.06.2023.

Relay room/ relay hubs/goomties/Gate goomties/cabin housing are 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/ relay hubs/ goomties/ Gate goomties/cabin housing and shall return the key to SM. The particulars of such transactions shall be entered by the SM in the relay room key register vide OM 2015 Para No.13.16 and in case of relay hubs/goomties/Gate goomties/cabin housing in the register meant for this purpose.

4.3 POWER SUPPLY:

NORMAL : - A.T supply is 230v, 50 HZ
1st standard : Local Supply
2nd STANDBY:- D.G. Supply.

5.0 TELECOMMUNICATIONS:

i) Telephone attached to Tokenless block instruments is connected to adjacent block stations on either side.
ii) Electric communication equipment (Magneto phone) is provided for block stations on either side.
iii) The station is connected to KRPU-KRDL control circuit.
iv) The station is connected to KRPU-KRDL traction power control circuit.
v) The station is connected to CH locations at either end of the yard.
vi) One auto telephone available in the SM room
vii) 25 watts VHF set is provided for emergency communication.

viii) BSNL Phone is provided.

5.1 ACTION IN THE EVENT OF FAILURE OF TELEPHONE COMMUNICATIONS:

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

b) During total interruption of communication between the adjacent block stations SR 6.02.04 shall be observed.

6.0 SYSTEM OF TRAIN WORKING:

6.1 DUTIES OF TRAIN WORKING STAFF:

Movement of trains is regulated by the Section Controller on duty whose orders must be carried out provided they do not in any way contravene any G&SR, BWM, OM and SWR and any other safe working principles vide OM 214. Where there is no control the station Master on duty shall work independently in conjunction with the Station Master of the adjacent block stations and shall be responsible for safe reception/dispatch of trains. He shall ensure that preference is given to immediate trains without causing undue detention which occurs to other trains.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

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

Staff in Each Shift	
SS/SM	1
Traffic Points Man	1

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

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

The verification of line clearance by SM on duty for reception of train into station yard: In the station yard a route on the running line comprises of entrance, berthing and despatch portion of the yard and this portion of the yard should be clear of all obstruction for the passage of any train. The clearance of the route including overlap must be ensured by the SM on duty by indication on panel for all trains before reception of a train unless its requiring to admit on blocked line. When a train is to be dispatched from the station yard, the SM on duty must ensure that the route between the starter signals and the block section limits demarcated by the advanced starter is clear of any obstruction and which also includes points, zones/track circuits on the route before the train is dispatched.

6.1.3 ASSURANCE OF STAFF IN ASSURANCE REGISTER:

Every train passing staff including newly posted staff at the Station or leave reserve staff or regular staff who has resumed duties after more than 15 days absence and if there be any change is made in Station Working Rules shall sign in the Assurance Register as a token of their having gone through and understood clearly the rules in connection with their duties vide SR 5.01.02.

The SS/SM in charge of the Station shall be personally responsible for maintenance of Assurance Register and must not allow any person connected with train passing duties to work independently unless he has given assurance as per 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 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 complete.
   ii) Up home signal No. 1A/B/C is put back to ON and,
   iii) Line is clear up to down advanced starter No. 12.

d) Line shall not be considered clear and line clear shall not be granted to a down train unless.
   i) Whole of the last preceding down train has arrived complete.
   ii) Down Home signal No. 2A/B/C is put back to ON and,
   iii) Line is clear up to up advanced starter No. 11.

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

a) The clearance of slip siding is to be ensured either for reception or despatch of trains over the said points.

b) Whenever it is planned to admit a down train into station yard keeping an up train at outside signals, the nominated route shall be set to slip siding only.

c) While shunting on Gradient towards Up Advanced Starter Signal No.11, an engine is to be attached towards the Falling side of the Gradient GR. 5.20 to be strictly followed.

6.2.1.1 SETTING OF POINTS AGAINST BLOCK LINE: When a running line is blocked by stabled load, wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train at the station 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 vide **SR.3.51.06**

Safety Point Alarm:-

A safety point alarm is provided on the Table of the Duty SM with different indications.

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

If all the lines of a station happen to be blocked, when line clear has been granted to a train, **then the Safety Point Alarm will not work.** Then, 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 chances 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 vide SR 3.51.06(b). These precautions shall be taken in addition to the observance of other precautions as contained in SR 5.04.01 and SR 5.23.01. Block Collars to be placed on the concerned button of blocked line.

To Block / Unblock a particular line, displays 'Block' 'Unblock' option on the menu. Select line block option. After selecting the line block option, that particular line will be blocked and Red color indication will be displayed on the line.

6.2.1.2 RECEPTION OF TRAIN ON BLOCKED LINE:

The rules laid down in GR 5.09 and relevant SRs shall be followed.

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:

Not Applicable

6.2.1.6 ANY OTHER SPECIAL CONDITIONS SHOULD BE MENTIONED GIVING REFERENCE TO THE G&SR:

SPECIAL RESTRICTIONS:

a) Shunting in the face of an approaching train is prohibited vide **GR 8.09** and relevant SRs

b) Hand shunting is prohibited.

c) Fly shunting is prohibited.

d) The slip siding must not be used as shunting neck or for stabling of vehicles or harboring an engine with or without vehicles.

e) Shunting shall not be permitted at either end of the station unless the engine is towards the falling gradient vide SR 5.20.01 (b).

f) SR 5.1402, 5.20.01(b), 5.23.01(c) shall be followed before detaching the engine from the rake.

g) Motor trolleys are not permitted on following line clear between JRT-MVG, JRT-MVF block section vide SR 15.25.03(b)(iii) due to sharp curves and steep gradients.

h) Ballast/Material train shall not be allowed to be pushed into block section JRT-MVF.

i) No train shall be stabled on Main Line without Live Engine as the yard »is steeper than 1 in 400 as per RB circular No 2009/Safety (A&R) 125 dt 10-09-09.

6.3 CONDITIONS FOR TAKING 'OFF' APPROACH SIGNALS:

a) **Conditions**:
Conditions for taking 'OFF' approach signals are governed by GR.3.40(1)(b), 3.40(2)(b), 3.40(3)(b) and relevant SR's there to.

b) **Reception of trains:**
Reception of trains is governed by the relevant rules laid down in GR.3.36, 3.38, 3.40, 3.49, 3.43, & 4.17 and SR thereto and other relevant provisions of G&SR, BWM, OM and SWR shall be followed.

c) **Line Nomination:**
The SM on duty shall nominate a line for reception of a train either Up or Down which is clear of any obstruction from the home signal to the starter signal as also an adequate distance beyond it.

d) **Adequate Distance:**
To take off the home signal for admission of a train the adequate distance as mentioned below shall be kept clear in terms of GR 3.40.(3)(b) and SR thereto.

CLEARING OF ADEQUATE DISTANCE

LINE NO.	UP TRANS		DOWN TRAINS	
	FROM	TO	FROM	TO
LINE NO. 1	UP Starter No. 7	Up to the end of Sand hump or up to the Up Advanced starter No 11	DN Starter No. 6	Up to the end of Over Run line or up to the Dn Advanced starter No 12.
LINE NO. 2	UP Starter No. 9.	Up to the Up Advanced starter No 11	DN Starter No. 10.	Up to the Dn Advanced starter No 12
LINE NO. 3	UP Starter No. 5.	Up to the end of Sand hump or up to the Up Advanced starter No 11	DN Starter No. 8	Up to the end of Sand hump or up to the Dn Advanced starter No 12.

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

e) **Stopping of Shunting Operations:**

The Station Master on duty shall ensure that all shunting on non isolated line is suspended and shunting authority issued to such operation is withdrawn and kept in his possession vide GR 5.13 and SR 5.13.02 before receiving a train on non-isolated line.

f) **Putting Back Signal to normal:**

The station Master on duty after confirming the complete arrival of the train as per procedure mentioned in Para 6.04.4 shall put back the signals to normal.

g) **Special conditions to be observed while receiving a train:**

i) The clearance of slip siding is to be ensured either for reception or despatch of trains over the said points.

ii) Whenever it is planned to admit a Up train on signal or piloting into station yard keeping an Down train at outside signals, the nominated route shall be set to slip siding only.

h) **Procedure for taking off reception signals:**

i) The SM on duty shall nominate **a** clear line which is free from all obstructions including signal over lap.

ii) The Panel provided at this station is Route setting type, the trailing and facing points can be set to the desired position by pressing Signal button and concerned Route button simultaneously. How ever the points can also be set to desired position by pressing concerned point button along with common Normal or Reverse button simultaneously.

iii) On pressing signal and Concerned route buttons, a white strip of light will appear throughout the entire route and the signal will assume 'OFF' position (provided the entire initiated route is clear and free from all obstructions).

iv) As the train enters on the route the white strip lights will turn to red showing occupancy of the route. AS the route gets clear the strip lights extinguish indicating clearance of the zone on the route.

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

Station Master should ensure that the signal is put back to 'ON' after passage of train as per GR 3.36(2)(b)

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

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

a	Reception of an UP train on line No. 1 setting over lap to Sand Hump	AND	(a) Reception of a down train on line No. 3. setting over lap to Sand Hump (Or) (b) Despatch of another UP train from line No. 2 or 3.
b	Reception of an UP train on line No. 3 setting over lap to Sand Hump	AND	(a) Reception of a down train on line No. 1. setting over lap to Over run line (Or) (b) Despatch of another UP train from line No. 1 or 2.
c	Reception of a down train on line No. 1 setting over lap to Over Run line	AND	(a) Reception of an up train on line No. 3 setting over lap to Sand Hump. (Or) (b) Despatch of another down train from line No. 2 or 3.
d	Reception of a down train on line No. 3 setting ove'r lap to Sand Hump	AND	(a) Reception of an up train on line No. 1. setting over lap to Sand Hump Or (b) Despatch of another down train from line No. 1 or 2.

B) <u>CROSSING OF TRAINS:</u>

In addition to the normal provision of reception and despatch of trains, rules laid down in SR 3.47.01 and SR 3.51.06" shall be followed.

Note: The SM on duty should be very careful to see that the signals on the route on which the first train is admitted are not interfered with unless the first incoming train has come to a stop either at the STOP SIGNAL or at THE USUAL PLACE OF HALT and is clear of the fouling marks and it is only when the route for the second train in the opposite direction shall be initiated.

6.5 <u>COMPLETE ARRIVAL OF TRAINS:</u>

Axle Counters have been provided on Block Section between JRT-MVF and JRT-MVG as last Vehicle checking device. This axle counter will control the Single line Token less block instruments of the respective section. The occupation and clearance of the axle counter section will be indicated in the panel by Red and Green light.

Up Adv Starter signal of section JRT-MVG cannot be taken off if axle counter of Up block section between JRT-MVG fails. DN Adv. Starter signal of Block section can not be taken 'OFF" if Axle counter of section between JRT-MVF fails. On the other hand on arrival of a train to JRT Station, if the axle counter continue to show occupied the Token less block instruments of corresponding section can not be turned to line closed position and the resetting of LVCD axle counter shall be resorted to.

FOR THROUGH TRAINS:

The SM on duty at station shall observe that the last vehicle of every train passing through his stations is provided with a train board or tail lamp or such other device in accordance with the provisions of the GR 4.16 and SR thereto.

6.6 DESPATCH OF TRAINS:

a) Dispatch of trains is governed by the provisions of GR. 3.42 and SRs 3.36 .04(b), 3.42.04; 3.42.01(a) and BWM 2.07(5)(a)(e)(f) & (g) and other relevant provisions of G & SR, BWM and SWR.

b) **ISSUE OF CAUTION ORDERS:**

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

6.7 TRAINS RUNNING THROUGH:

a) In addition to procedure detailed in paras 'Reception and Dispatch of trains, Rules laid down in GR 4.17, 4.42, 3.36, 3.42 with relevant SRs shall be followed.

b) Reception and Dispatch signals shall be taken "OFF" as per the sequence given vide SR 3.42.02(a)(iv), SR 3.42.03 and SR 3.42.04.

c) In every case in which trains are permitted to run through on a non-isolated line all shunting shall be stopped and no vehicle-unattached to an engine or not properly secured in accordance with GR5.83 may be kept standing on a connected line which is not isolated from the through line vide GR 4.11(2).

d) SS/SM on duty shall see the last vehicle of every train passing through at Station with a board or lamp or such other device vide GR 4.16 SR 4.17.01(a).

6.8 WORKING IN CASE OF FAILURE:

DEFECTIVE TRACK CIRCUITS

SS/Dy. SS shall follow procedure laid down in SR 3.68.01(e).

DEFECTIVE POINTS

Procedure prescribed in SR 3.68.01(e) and relevant SRs shall be followed.

DEFECTIVE AXLE COUNTERS

Detailed procedure laid down in GR 3.68.01 (e) shall be followed.

FAILURE OF SIGNALS AND INTERLOCKING

SS/Dy. SS on duty shall be responsible and personally supervise the setting, clamping and pad locking of all required facing and trailing points for admission or despatch of trains and procedure laid in GR 3.68 to 3.71 and SRs there to shall be followed

6.9 PROVISIONS FOR WORKING OF MOTOR TROLLIES / MATERIAL TROLLIES:

Motor trollies shall be worked as per GR 15.25 and SR thereto, BWM 5.11(1)(2), 5.12, 5.13,5.14(2)(a) and circulars and orders issued from time to time. Material lorries shall be worked as per GR 15.27 and SRs thereto and in accordance with the provisions of Block Working Manual.

OCC keys of Token less block instrument is used in connection with working of push Trolleys and motor Trolleys in A.C. section to execute work in mid-section as per DSO's memorandum No. WTP/2 dt. 19.7.1984.

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

7.0 BLOCKING OF LINE:

a) A clear remark in RED ink shall be made immediately in the train signal register indicating time and number of running line on which vehicles are stabled. A record thereof shall be made in the station diary also vide SR 5.23.01(a). The same shall be acknowledged by the reliever.

b) **USE OF REMINDER COLLARS:**

SM on duty whenever a running line is blocked for any reason, shall place REMINDER COLLARS on the concerned Home signal and point button.

c) **LOADING AND UNLOADING OF VEHICLE ON RUNNING LINES:**

Loading and unloading of vehicle on running lines by SR 5.19.01 shall be followed.

d) **SECURING OF VEHICLES:**

The rules laid down in GR 5.23, SRS 5.23.01,3.01.06 and OM 7.08 shall be followed.

NOTE: Special care must be taken to secure special type wagons provided with roller bearing as they are liable to roll down easily vide OM 7.03.

e) **DETACHING OF VEHICLES ON RUNNING LINE:**

Detaching of vehicles on running lines is normally prohibited. "However any vehicle is detached on running lines under unavoidable circumstances such rolling stock shall be placed opposite to the Station Master's Office as far as possible and shall be properly secured vide GR 5.23 and SR 5.23.01(d).

8.0 SHUNTING:

8.1 GENERAL PRECAUTIONS :

The rules laid down in GR 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16 to 5.23, 8.05, 8.06, 8.14 and 8.15 with relevant SRs and OM 7.01,7.07,7.08, 5.15(1)(B) and 5.1(2)(B) shall be followed. For any non-signalled movement, the Dy S.S/S.M. on duty shall ensure clearance of crossover through the indication on the panel and the person who supervises such shunting shall also confirm it to SM on duty over goomty phone supported by private number.

8.2 SHUNTING IN THE FACE OF AN APPROACHING TRAIN:

Shunting in the face of an approaching train is strictly prohibited. Vide GR 8.09 & SR thereto.

8.3 PROHIBITION OF SHUNTING - SPECIAL FEATURES:

a) Hand shunting is prohibited at both ends of the yard vide GR 5.20.

b) Fly shunting is prohibited at both ends of the yard vide SR 5.21.01 (c).

c) The slip siding must not be used as shunting neck or for stabling of vehicles or harbouring an engine with or without vehicles.

d) Shunting shall not be permitted at KTV end of the yard unless the engine is leading towards falling gradient.

e) SR 5.14.02, 5.23.1(b), 5.23.01(c) shall be followed before detaching the engine from the rack

f) For any shunting towards KTV end of the yard the slip siding to be set to running line with the reminder collar placed on point button no 22, till such time the shunting is completed.

8.4 SHUNTING ON SINGLE LINE:

i) Within Station section: Governed by GR 8.10.

ii) Within 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 such section which is intended to be obstructed supported by private number. Both the station masters shall fix line block labels on respective block instruments and shall continue shunting provided by the block section is clear.

8.5 SHUNTING ON DOUBLE LINE:

Not Applicable

8.6 SHUNTING IN THE SIDING TAKING OFF FROM STATION YARD / GOODS SIDING.

a) **NON-SIGNALLED MOVEMENTS:**

All signalled movements in the yard either of train or an engine with or without vehicles shall be from one stop signal to the next stop signal and no half way movement are permitted and if such movements are unavoidable it should be considered as non-signalled move and precautionary measures should be taken, such as clamping and pad locking of points on the route both interlocked and non-interlocked points including derailing switches whether directly or locally operated with or without locks according to SR 5.13.05., 5.14.03. It must be ensured that point controlling switches are in appropriate position and that the SM's panel lockup key is removed and kept in the personal custody of the SM on duty.

b) **CUSTODY OF KEYS PADLOCKS DURING SUCH MOVEMENTS:**

The keys of the padlocks of such points shall be in the personal custody of the operating official vested with this responsibility of supervision till such time movements are completed. The operating official vested with the responsibility of supervising the non-signaled movement of the engine /train/vehicle must return the key along with pad locks to the SS/SM on duty, after completion of the said movement or alternatively when such a move is cancelled.

Note: Points both facing and trailing are to be clamped and padlocked for all yard shunting operations over them. Further it should be ensured that the track circuits including that of point zones are clear of any obstruction and certified so by the operating official (who is responsible for shunting operation) before the SM on duty resumes normal working of trains such as reception or despatch.

c) **AUTHORITY FOR SHUNTING OPERATIONS:**

The SS/SM on duty shall issue written shunting authority on form T/806 to the Loco Pilot through guard of the train.

This memo shall be withdrawn whenever shunting is to be suspended for reception and dispatch of train if the line on which shunting is performed is not isolated. After shunting is completed, the order shall be collected from the Loco Pilot cancelled and pasted with the record foil as per SR 5.13.02

9.0 ABNORMAL CONDITIONS:

a) **RULES TO BE OBSERVED IN THE EVENT OF FOLLOWING ABNORMAL CONDITIONS.**

i) During partial interruption/failure of electrical communication instruments SR 6.02.06 shall be followed.

ii) The authority to proceed in the occupied block section in case of obstruction of line or accident etc is T/A-602 and SR 6.02.05 shall be followed.

iii) Trains delayed in the block section: GR 6.04 and relevant SRs shall be followed.

iv) Failure/ passing of IBS signed in ON position: Not applicable.

v) Failure of Axle Counter Block/BPAC : Trains shall be Piloted out at both ends of the Block section treating Advanced starters are defective..

vi) Failure of MTRC: Not applicable.

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

i) Procedure for operation of points by means of crank handle: in the event of failure of operation of points through panel, it is inevitable to operate manually by means of crank handle as per the procedure mentioned in Appendix-B

ii) Procedure for operation of point in the event of failure of point zone track circuit: the procedure of operation as mentioned in Appendix-B is to be followed.

c) **CERTIFICATIONS OF CLEARANCE OF TRACK BEFORE CALLING ON SIGNAL OPERATION IS INITIATED.**

No calling on signals are provided by before taking off calling On signal during failure of track circuit/axle counter, the route and clearance of the track over which train would pass to be verified by SM on duty.

d) **REPORTING FAILURE OF POINTS, TRACK CIRCUITS/AXLE COUNTERS AND INTERLOCKING.**

i) Whenever a failure of track circuits/Axle counter/Point is occurred, SM on duty is to advise the signal maintainer immediately through a memo under clear acknowledgment and after rectification, the memo to this effect to be obtained from signal maintainer.

ii) Such failures are to be recorded in the signal failure register, SM's diary, TSR and urgent order book.

9.1 TOTAL FAILURE OF COMMUNICATIONS:

In the event of total failure of communications trains shall work as per SR 6.02.04.

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 UNDER BLOCK TICKET TO ASSIST THE CRIPPLED TRAINS:

During total interruption of communications when a light engine/train engine/motor trolley/tower wagon/trolley/cycle trolley/mopped trolley/diesel car/rail motor car/EMU rake whichever available is sent to open communications under authority to proceed without line clear, the relevant provisions of SR 6.02.05 shall be followed.

For trains proceeding on the authority to proceed without line clear the last stop signal shall not be taken off but the authority to pass the last stop signal at ON position is included in the prescribed form T/B 602.

10.0 VISIBILITY TEST OBJECT:

The signal lights of UP starter signal No.7 and DN starter signal No. 6 of Line No. 1 during day and night are the visibility Test objects vide GR.3.61 (2)(b)(iii).

11.0 ESSENTIAL EQUIPMENT AT THE STATION

The detailed list of essential equipment to be maintained at the station in good working order vide O.M.20.01(11) is given in Appendix-E of the SWR.

12.0 FOG SIGNAL MEN TO BE CALLED IN CASE OF FOG:

During thick/ foggy tempestuous weather, when the visibility of signals impaired, the SM on duty shall comply GR 3.61 and 3.64 with relevant SRs there to in order to indicate to the loco piliot s of approaching trains, the locality of the signal. Fog signal men shall be regular employee of Railway. Substitute/ casual labourers shall not be utilised as Fog signal men vide SR 3.61.01(i). SM shall explain the rules to work in the event of fog to the fog signal men nominated and their signature to be obtained in the station detonator register on form no. OP/T/24 vide SR 3.61.01. Possession of stock of detonators, use, testing etc. maintained in terms of GR 3.64 and SRs there to. Life span of detonators is 7 years from the date of manufacture.

13.0 APPENDICES:

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

EAST COAST RAILWAY
WALTAIR DIVISION

APPENDIX 'A'

WORKING OF LEVEL CROSSING GATES
JARATI STATION

NIL

SYSTEM OF SIGNALLING AND INTERLOCKING AND TELECOMMUNICATIONS

JARATI STATION

Details of Signalling and Interlocking installations, Telecommunication instructions for working them normally and in emergencies etc., including the power supply arrangements.

1.0 BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATION:

This is a 'B' Class Station with Standard-Ill interlocking (with isolation). The points and signals are power operated from a composite miniature 'DOMINO TYPE' full-fledged route setting type panel installed in the station master's office. This Station is equipped with multi aspect colour light signaling. The Daido type token less Single Line Block Instruments are provided in the SM panel room for section JARATI-MANABAR and JARATI-MALIGURA.

1.1 DESCRIPTION OF PANEL:

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

1.2 POINT BUTTONS:

Each point is provided with Push button (Black in colour) for individual operation of Points. For operation of point to normal/reverse position, Point group push buttons (black with red dot) are provided. Point button and Point Group button normal/reverse shall be pressed simultaneously for operation of point to required position. To indicate the position of point, a white steady strip on normal point zone, and a white steady strip on reverse point zone is provided on the panel for actual layout.

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

1.4 When a point is set and locked correctly in reverse position, a white steady strip indication on reverse point zone appears suggesting that the point is in reverse position.

1.5 When the point is operated from reverse to normal position, a white strip indication on normal point zone will start flashing till the concerned point is set and locked in normal position.

1.6 When the point is operated from normal to reverse position, a white strip indication on reverse point zone will start flashing till the concerned point is set and locked in reverse position.

1.7 OPERATION OF POINTS:

Points are operated to normal or reverse by pressing individual point button in conjunction with the point group button. There by the white strip indication on normal point zone or reverse point zone as the case may be start flashing till the points are set to normal or reverse position and locked. Then the white steady strip indication on normal point zone or reverse point zone will appear as the case may be. During the automatic route setting of the train operation, the same indication will glow.

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

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

2.1 DESCRIPTION OF POINTS:

SL. NO.	POINT BUTTON NO.	COLOUR	DESCRIPTION
1	21	Black	Cross over point between line No. 1 & main line at KTV end.
2	22	Black	Slip siding point at KRDL end.
2	23	Black	Cross over point between line No. 3 & main line at KTV end.
3	24	Black	Cross over point between line No. 3 & main line at KRDL end.
4	26	Black	Cross over point between line No. 1 & main line at KRDL end.
5	Point Group button (Normal)	Black with Red dot	Common button for normal operation of points
6	Point Group button (Reverse)	Black with Red dot	Common button for reverse operation of points

3.0 SIGNAL BUTTONS:

SL. NO.	BUTTON NO.	COLOUR	DESCRIPTION
1	C1	Red with white dot	UP calling 'ON' signal for Line No. 1,2 & 3
2	S1	Red	UP Home signal for Line No. 1,2 & 3
3	C2	Red with white dot	DN calling 'ON' signal for Line No. 1, 2 & 3
4	S2	Red	DN Home signal for Line No. 1,2 & 3
5	S5	Red	UP starter for line No. 3
6	S6	Red	DN starter signal for line No. 1
7	S7	Red	UP starter for line No. 1
8	S8	Red	DN starter for line No. 3
9	S9	Red	UP main starter for line No. 2
10	S10	Red	DN main starter for line No. 2
11	Sll	Red	UP Advanced starter
12	S12	Red	DN Advanced starter
13	SH3	Yellow	Shunt signal for line No 1,2 & 3 towards KRDL end.
14	SH4	Yellow	Shunt signal for line no 1,2 & 3 towards KTV end.

3.1 SIGNAL INDICATION:

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

4.0 ROUTE BUTTONS:

Route buttons are provided separately on each running line on the panel for indication of route (Viz. Ll-UN, L1-UN1, L2-UN, L3-UN, L3-UN1). Common route buttons are also provided for taking off starter 11AT UN, 12AT UN. An individual route button is provided for taking off Up and DN advace starter are 11UN & 12 UN. For clearing the signal, it is necessary to operate the signal button and the concerned route button concurrently.

4.1 DESCRIPTIONS OF ROUTE BUTTONS:

SL. NO.	BUTTON NO.	COLOUR	DESCRIPTION
1	L-l UN	White	Common route button for UP and DN Home signal for line no. 1 setting overlap on main line.
2	L-l UN 1	White	Common route button for UP and DN Home signal setting overlap on SH or ORL and common route button for Up & DN calling on signal for line no 1 and for shunt movement.

3	L-2UN	White	Common route button for UP and DN Home signal for line no. 2 setting overlap. On Main line UP and DN Calling-On signal for line No 2 and for shunt movement respectively.
4	L-3 UN	White	Common route button for UP and DN Home signal for line no. 3 setting overlap on main line.
5	L-3 UN1	White	Common route button for UP and DN Home signal for line no. 3 setting overlap on over run line and for shunt movement and UP and DN Calling-On signal for line no 3 respectively.
6	12AT UN	White	Common route button for DN starters 6, 8 and 10.
7	11AT UN	White	Common route button for UP starters 5, 7 and 9.
8	11 UN	White	Route button for UP advanced starter.
9	12 UN	White	Route button for DN advanced starter.
10	Group (Trans)	White with black dot	Common Trans button for crank handle.
11	Group Released	White with black dot	Common released button for crank handle.

5.0 POWER FAILURE INDICATION/BUZZER AND POWER ACKNOWLEDGEMENT:

Power supply to the signalling installation is through integrated power supply system. The IPS is normally fed through AT supply and 1st Standby is single-phase state electricity 'supply. The 2nd stand by power supplies is through Diesel generators. The available AT/local/DG supply is fed to the IPS through auto-change over switch provided in IPS.

In the event of failure of AT supply , the local power supply is extended to the circuit. The power supply of D.G. set is fed to the auto changeover switch provided in IPS. Through auto changeover switch the DG set power supply will be extended to the IPS.

Normal AT supply is connected and state electricity supply is fed to IPS through auto changeover as 1st Stand by and as soon as AT/ state electricity supply is failed battery feed is extended through IPS .As and when battery discharged as indicated by ASM's Panel the Generator is started and the generator power supply is switched over to IPS. When the AT/state electricity supply is restored the generator shall be stopped by the SM on duty. The IPS system is connected with battery for safe working during transition of power. Remote monitoring ASM console for IPS is provided at SM's office, which will give the following instructions:

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

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

5.1 SIGNAL LAMP FAILURE INDICATION (MUTING BUTTON RED WITH WHITE DOT]

Whenever signal lamp(LED) is Fails, a miniature flashing Red light indication appears along with an audible buzzer indicates Signal lamp failure. Then SS/Dy.SS on duty shall press the Acknowledgment button thereby the buzzer stops but the Red indication lamp becomes steady which continues till either the signal lamp is replaced or signal assumes other aspect.

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

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

6.0 TRACK CIRCUITS / AXLE COUNTERS:

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

Indication panel is installed in station to indicate the occupation/clearance of track circuits.

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

6.2 CRANK HANDLE FOR EMERGENCY OPERATION OF POINTS:

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

CRANK HANDLE CONTROL FOR OPRATION OF POINTS

S.No	Crank Handle	Control points
1	CH 1	21, 23
2	CH 2	24, 26
3	CH 3	22

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

7.0 STATION MASTER'S KEY:

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

8.0 EMERGENCY OPERATIONS:

The following are the instructions for Emergency operations.

8.1 CANCELLATION BUTTON OR VEEDER COUNTER:

For the purpose of the emergency operations there is an emergency Route cancellation and also there is a veeder counter for counting emergency operations involving the concurrent operation of the emergency route cancellation button. The station master on duty must press the emergency route button along with concerned signal button for which emergency route releases is required. A yellow indication will appear below the signal indicating that the timer has started operation and after lapse of 120 seconds, the desired route will be released provided all other conditions are favourable for the route release.

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

8.3 CANCELLATION OF UNINTENDED LOCKING OF POINTS:

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

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

OR

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

OR

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

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

a) Firstly the signal has to be put back to the ON position

b) Emergency route cancellation operation must be initiated as detailed in para 8.1.

9.0 EMERGENCY OPERATIONS:

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

If the locking of the route does not get released for any reason 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 and signal buttons are in normal position

b) Operation as detailed in para 8.1 to be followed..

10.0 EMERGENCY OPERATIONS OF POINT(IN CASE OF POINT ZONE TRACK CIRCUIT FAILURE):

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

11.0 INTERLOCKING OF SIGNALS:

11.1 All running line points are fitted with point machine and are electrically detected by the relevant Home signals and starters.

11.2 Advanced starters are interlocked with respective Single line token less instrument in LINE CLEAR position.

11.3 Home signals are interlocked with respective Single line token less block instruments. The Block instruments cannot be made to normal unless the respective Home signals are in Normal position.

11.4 Signals once taken OFF can be put back to ON in case of emergency by pressing the concerned signal button in conjunction with signal cancellation button even when the panel is locked up with Station Master’s key.

12.0 LOCKING OF RELAY ROOM:

12.1 Relay room at this station is provided with double locks (Two independent locks) as necessary vide OM 1.14, key of one lock shall be kept with the Signal Maintainer of the section and the key of the other lock with Station Master on duty. The relay room cannot be opened unless both keys are used.

12.2 The Station Master shall ensure that the Relay Room key is given to maintenance staff under clear signature as and when required for their normal maintenance and special works and that the key should be returned by the staff immediately after completion of their work and the documentation should be made in the Relay Room Key register maintained at the Station according to SR 3.51..05 and OM 1.14.

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

13.1 The regular maintenance of S&T installations and adherence to the schedules of maintenance is also the mandatory schedules of testing of points, track circuits, signal lever machines, level crossing gates, the associated interlocking apparatus i.e., cables and finally the interlocking functional tests is a must for the safe and satisfactory working of those installations at JARATI Station.

13.2 The tests, checks and replacements etc. including overhauling shall confirm to the schedule of maintenance as indicated in the signal engineering manual as also in the current and extent instruction / circulars on the subject.

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

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

14.1 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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

14.2 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

It is only after receipt of this information the sectional maintainer (Electrical or Mechanical) shall attend to the failure after giving a disconnection memo. After rectification of the fault the sectional maintainer shall give a reconnection memo detailing rectification and it is only after the Station Master of duty has personally checked this defective gear and is satisfied that it is in good and proper working order, he shall resume the normal working of the said defective gear in terms of SR 3.64.04 (c) and (d).

15.0 PROCEDURE FOR CARRYING OUT PLANNED MAINTANANCE WORK:

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

16.0 EMERGENCIES:

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

17.0 LIGHTING OF SIGNAL LAMPS AND THEIR MAINTENANCE:

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

18.0 CORRECTING TIME IN STATION CLOCK:

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

19.0 NORMAL POWER SUPPLY AND STAND BY POWER SUPPLY:

The Station works on 230 Volts AT power supply. The first stand by power supply is from the local supply. The second standby power supply is from the D.G

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

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

20.0 WORKING OF POINTS – POSITION OF POINTS:

The normal position of all points shown in the Station Working Rule Diagram No. SI/WRD 23062 and also in the mimic indication panel provided in the Station Masters office.

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

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

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

21.1 Whenever a Signal or a Point become defective, any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at Station.

21.2 In case of failure of Signal or a Point and in case the Point can not be operated from the Panel, the emergency Crank Handle which is interlocked with the system has to be extracted and the following procedure has to be observed.

21.3 The crank handle key can be extracted from concerned point crank handle RKT provided at location by pressing common trans button along with concerned crank handle button. After setting the point by crank handle the key will be inserted again into the concerned crank handle RKT and will be turned. Key indication will appear on panel and the SM has to press the common receive buttons along with concerned crank handle button for further normal operations.

21.4 The case of failure of Motor Operated Points should be promptly reported to the concerned Signal Inspector/ESM for immediate rectification.

21.4.1 Whenever an emergency Crank handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty ;will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the concerned Points will be treated as defective till the Emergency Crank Handle is returned back to the Station Master on duty.

21.4.2 Emergency release of crank handle after the lapse of 120 sec., in case of emergency release of crank handle during any of the route remains locked.

21.5 Both parting with the emergency crank handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.

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

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

22.0 INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

22.1 INTERLOCKING WITH HOME SIGNALS:

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

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

22.3 SUSPENSION OF LAST STOP SIGNALS:

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

23.0 BURNING OF SIGNAL LIGHTS:

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

24.0 TELECOMMUNICATIONS:

a) Telephone attached to Token less block instruments is connected to adjacent stations on either side.
b) Electric communication equipment (Magneto phone) is provided for block stations on either side.
c) The station is connected to KRPU-KRDL control circuit.
d) The station is connected to KRPU-KRDL traction power control circuit.
e) The station is connected to Goomties at either end of the yard.
f) BSNL telephone is provided.
g) 25 watts VHF set is provided for emergency communication.
h) Railway Auto Telephone is provided in station master's room

25.0 FAILURE OF COMMUNICATIONS – FAILURE OF BLOCK INSTRUMETS:

i) In the event of suspension / failure of Token Less Block instrument line clear transaction shall be made on block telephone attached to Block instrument exchanging identification number and supported by a Private number vide SR 6.02.06 (1) (a).

ii) In the event of. suspension / failure of Token Less Block instrument and Block telephone attached to Block instrument line clear transaction shall be made on station to station Magneto phone exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).

iii) In the event of. suspension / failure of Token Less Block instrument, telephone attached to Block instrument and station to station magneto phone, line clear transaction shall be made on control telephone exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).(C).

iv) In the event of. failure of all communications trains shall be worked in terms of SR 6.02.04.

26.0 LAST VEHICLE CHECKING DEVICE:

Axle Counters have been provided on Block Section between JRT-MVF and JRT-MVG as last Vehicle checking device. This axle counter will control the Single line Token less block instruments of the respective section.

The occupation and clearance of the axle counter section will be indicated in the panel by Red and Green light.

Up Adv Starter signal of section JRT-MVG can not be taken off if axle counter of Up block section between JRT-MVG fails. DN Adv. Starter signal of Block section can not be taken 'OFF" if Axle counter of section between JRT-MVF fails. On the other hand on arrival of a train to JRT Station, if the axle counter continue to show occupied the Token less block instruments of corresponding section can not be turned to line closed position and the resetting of LVCD axle counter shall be resorted to.

27.0 RESETTING OF LVV 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 no appear in the panel, The receiving station SM shall apprise the sending station SM through telephone for resetting giving details of last train that has arrived complete at his station and the block section is clear. The receiving station shall inform the sending station as to whether the last train that entered into the section has arrived or not. And, if arrived fully shall so intimate authenticated by exchanging Private number with the sending station.
The status of the section LVCD i.e. Clear (GREEN), occupied (RED), preparatory reset (GREEN) and power on indications (WHITE) are provided in the reset box.

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

A. On being advised by SM-JRT, SM-MVG/MVF inserts the key in the Reset Box, turns right and presses both the key and the Push Button (Red) simultaneously with the SM-JRT. The Counter on the Reset Box at JRT and MVG/MVF registers the next higher number and after five seconds miniature green Preparatory Reset indication appears on the Reset Box both at JRT and MVG/MVF. The step by step procedure shall be followed as given in “B” to “I”.
B. SM/JRT and MVG/MVF 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.
I. The SM on duty shall record it in the Train Signal Register indicating the resetting operations in detail i.e. train number, time, Private Number exchanged with SM of sending station and giving reasons for the resetting operation.
J. If the axle counters functioning properly now, then Block Section cleared indication ‘G’ will appear on the panel and the concerned Block working will be normalized.
K. If the LV axle counter section indication does not appear ‘Green’ and continues to show ‘RED’ indication, the concerned Block section shall be suspended and failure intimation to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

28. Working of Automatic Fire detection and Alarm System:-

- In case of any Alarm Zone Number on the LCD Display chart can be seen
- Note down the Zone number and Panel Display name by referring display chart
- Then open the keypad and press the 'Off' button and enter the code 1111 (1 digit Four times)
- Automatically it will get reset
- Once you find the Zone number rush to the particular area where the detector gives alarm
- The moment the detection detects any smoke particles, the RED LED will blink along with the Alarm.
- Once you reach the area where the detector gives the Alarm, Check whether the alarm is due to the Fire or for any other reason.
- To alert the people in case of emergency, press * sign of the ne which is present inside the keypad together for few seconds. This will enable you to here the panel alarm.
- To rest the panel, press 'Off' button and enter the code 1111 (1 digit Four times)
- If the power fails on this will enable us to see the Red indicator on the panel.
- In case of failure in power and if the battery is fully charged, the panel can function effectively as long as the charge in the battery is present.

Auto Dialing:-

If you here the alarm from the panel, this system will dial the Railway auto phones as assigned to the All concerned.

APPENDIX 'C' TO STATION WORKING RULES OF JARATI STATION

ANTI COLLISION DEVICE [RAKSHA KAVACH]

NIL

APPENDIX 'D'

DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT

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

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

i) He is responsible for trains passing during his shift.

ii) He is responsible for the general and satisfactory working of the station and for the efficient discharge of duties by staff working under him.

iii) He shall keep all Rule books, Registers, Files and documents neat and up to date.

iv) He shall ensure that all equipment, apparatus, and instruments including signaling and interlocking gears and fittings are kept clean and oiled by S&T officials.

v) His special attention is drawn to Chapter-II of G&SR and GR 5.01 to 5.08 with relevant SRs and O.M. Chapter-2.

vi) He shall follow the instructions laid down in SR.3.68.01 (c) and (d) and SR 14.07.01 and B.W.M.2.09 (e).

vii) He shall promptly attend to accidents and report them.

viii) He shall ensure that firefighting equipment at the station such as fire extinguisher, fire buckets etc. are in good fettle and ready for use.

ix) He must ensure that the essential safety equipment at his station is the same complete and in good condition. If there is any deficiency it should be made good without delay.

x) He shall see that TSR, SM's Diary, Inspection Note Book, Reference Books and other station record is properly maintained and preserved for a minimum period as prescribed in the Operating Manual.

xi) He shall ensure that all correction slips of Manuals and SWR are posted and changes are made in respective pages.

xii) He shall supervise the work of safe working staff and conduct night inspections and report lapses of staff working under him.

2. STATION MASTER:

a) He is responsible for trains passing during his shift.

b) He shall promptly bring to the notice of SM in-charge all irregularities and accidents in course of his shift duties.

c) During the absence of SM, I/C, the duties of the Station Master will devolve on him.

d) He shall follow SR 3.68.01(c) and (d) SR 14.07.1 and OM Chapter-2.

e) His special attention is drawn to Chapter-2 of G&SR 1976 and GR 5.01 to 5.08 with relevant SRs.

f) He shall not consider himself relieved of duty unless he has completed transactions of trains for which he has given/obtained line clear till the complete arrival of such trains.

g) He shall always obey the lawful orders of his superiors so long as they do not contravene any of the extant rules in force.

h) He shall keep the Station Master's control keys of Block Instruments/Control Panel in his personal custody whenever, he is required to leave his office even for a short duration.

i) He shall be responsible for correct issuance of caution order, whenever required.

j) As an assistant to SM, I/C, he shall carry out the instructions given from time to time.

3. <u>TRAFFIC POINTSMAN:</u>

i) He shall work under the orders SM on duty.

ii) He shall be in proper neat and clean uniform while on duty.

iii) He shall always commence his duty equipped with hand signal lamps during night and flags during day.

iv) He shall couple and uncouple vehicles under the supervision of SM.

v) He shall watch and guard the packages and other Railway property lying in the Station premises.

vi) He shall report any irregularities coming to his notice.

vii) He shall do loading and unloading of parcels, smalls and Guard's boxes. He shall do piloting IN and OUT.

viii) He shall deliver any official message to the proper person/office. He shall carry out any other duties entrusted to him by the SM on duty.

ix) He shall not leave his duty unless properly relieved or authorized by his superiors.

x) He shall follow OM Chapter-2.

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

APPENDIX 'E' TO STATION WORKING RULES OF JARATI STATION

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ESSENTIAL EQUIPMENT

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

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

APPENDIX "F" TO STATION WORKING RULES OF JARATI STATION

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

NOT APPLICABLE.

APPENDIX "G" TO STATION WORKING RULES OF JARATI STATION

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTION

DETAILS OF WORKING RULES OF 25 KV AC TRACTION