

EAST COAST RAILWAY

WALTAIR DIVISION



**STATION WORKING RULES
OF
PUNDI (PUN)**

EAST COAST RAILWAY

WALTAIR DIVISION

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EAST COAST RAILWAY

WALT AIR DIVISION

INDEX OF CORRECTION SLIPS

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STATION WORKING RULES OF PUNDI STATION
(BROAD GAUGE)

No.WTP/5/SWR/PUN

Date of Issue: _____

Date brought into force: _____

NOTE:-

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

(1) STATION WORKING RULE DIAGRAM

- i) Station working diagram No: SI/WRD23002 Alt 'Q'.
- ii) CSTE/ECORly/ DRG NO SI-23002 Alt 'Q'.
- iii) Date up to which corrected.

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

i)	Name of the Station	:	PUNDI (PUN)
ii)	Class of Station	:	'B'
iii)	Section	:	HWH-MAS
iv)	Double/Single line	:	Double Line
v)	Electrified/non electrified	:	Electrified
vi)	Gauge BG/MG/NG	:	BG
vii)	Railway	:	East Coast Railway
viii)	Route	:	'B'
ix)	Situated at KM	:	688.187 KM
x)	From	:	HWH
xi)	No. of Cabins	:	Centrally Operated VDU
xii)	Standard of Interlocking	:	Standard III (R)

2.2 Block Stations, IBH, IBS on either side and their distance and outlying sidings:

Sl.No	Adjacent Block station		Distance	Direction
A	PALASA		12.5 KM	VSKP END
	NAUPADA		13.39 KM	HWH END
B	Automatic Signals		NIL	
C	DK Station & Out Lying Siding		NIL	
D	Provision of IBS:	PUN-PSA	(i) UP line at KM 680.584 (ii) DN line at KM 680.584	
		PUN-NWP	(I) UP line at KM 694.970 (ii) DN line at KM 695.330	

Station Working Rules of **PUNDI** station

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 "Block Section" Ends
PUN-NWP UP Direction	From UP IB Home signal No. 15 of PUN	Outermost facing point No.31A of NWP
NWP-PUN DN Direction	From DN IB Home signal No.28 of NWP	Up to BSLB board of PUN
PSA-PUN UP Direction	From UP IB Home signal No. 49 of PSA	Outermost facing point No.21A of PUN
PUN-PSA DN Direction	From DN IB Home signal No. 16 of PUN	Up to DN BSLB board of PSA

2.4 i) GRADIENTS :

Station towards	Chainage		Inter Distance	Gradient
	From	To		
PSA Down Line	CSB	259.080	259.080 M	Level
	259.080	624.840	365.760 M	1 in 400 Falling
	624.840	Into section		1 in 150 Falling
PSA Up Line	000.000	259.080	259.080 M	Level
	259.080	655.320	396.240 M	1 in 400 Falling
	655.320	Toward section		1 in 150 Falling
NWP UP line & Down Line	CSB	91.44	91.44 M	Level
	91.44	594.360	498.920 M	1 in 400 Falling
	594.360	2264.360	1670.00 M	1 in 150 Falling
	2264.360	Into section		Level

ii) IBS Zone

Down Line towards PSA.	KM From	KM To	Inter Distance	Gradient
	From section	681.430	-	Level
	681.430	679.440	1.990 M	1 in 400 raising
	679.440	Into section	-	1 in 670 raising
Up line towards PSA.	From section	679.330	-	1 in 510 Falling
	679.330	680.550	1.260	1 in 670 Falling
	680.550	680.990	0.400	1 in 890 Falling
	680.990	Into section	--	Level
DN line for section NWP-PUN	From Section	698.05	--	Level
	698.05	697.81	0.24 M	1 in 200 Falling
	697.81	696.00	1.81 M	1 in 550 raising
	696.00	695.68	0.32 M	Level
	695.68	694.68	0.38 M	1 in 275 raising
Up line PUN-NWP	From Section	695.70	--	1 in 275 raising
	695.70	696.02	0.32 M	Level
	696.02	696.58	0.56 M	1 in 360 raising
	696.58	967.83	1.25 M	1 in 550 raising
	697.83	Into section	--	1 in 2570 raising

2.5 LAY OUT:

(A) RUNNING LINES IN THE MAIN YARD.

SI No.	Name of the line	Electrified/Non Electrified	Platforms/length
1	Line No.-1 (UP Loop)	Electrified	Low Level (560 M)
2	Line No.-2 (UP Main)	Electrified	
3	Line No.3 (DN Main)	Electrified	--
4	Line No.4(Common Loop)	Electrified	Low Level (560 M)

(B) SIDINGS:

SI No.	Name of the line	Electrified/Non Electrified	Platforms/length
1	TRACK MACHINE SIDING	Electrified	Rail Level (250 M)

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Station Working Rules of **PUNDI** station**2.5.1: RUNNING LINES, DIRECTION OF TRAFFIC, HOLDING CAPACITIES IN CSL.**

SI No	Name of the lines	Holding capacity in CSL	Direction of movements
1	Line No.-1 (UP Loop)	725 M (STR to SB)	(a)Trains coming from PSA and proceed towards NWP are UP trains. (b) Trains coming from NWP and proceed towards PSA are DN trains.
2	Line No.-2 (UP Main)	751 M (STR to SB)	
3	Line No.3 (DN Main)	738 M (STR to SB)	
4	Line No.4(Common Loop)	704 M (STR to STR)	

2.5.2.**NON RUNNING LINES:**

Sl.no	Name	Holding capacity in CSL in mtrs	Electrified/ Non Electrified
1	TRACK MACHINE SIDING	277.0 M (SH to SB)	Electrified

2.5.3**ANY SPECIAL FEATURES IN THE LAYOUT:****(A) TRACK MACHINE SIDING**

The Track Machine Siding is an extension portion of Over Run Line of Line No.4 (Common Loop) at HWH end and is terminated into a dead end. This siding is isolated from ORL by a DS point No.27. The CSL of Track Machine Siding is 277.0 M (SH to SB). Shunt signal No.SH-8 & SH-5 are provided for signalling movement to and from the siding respectively.

(B) SPECIAL INSTRUCTIONS:

COM/BBS's special instruction obtained as per GR 3.04 (i) for placing UP IB Home Signal No.49 of PSA, DN IB Signal No.16 of PUN, DN Gate Distant & UP Gate Home signal No. 1GF of 'A' class LC gate at KM 681/31-33 on right side of track.

2.6**LEVEL CROSSINGS:**

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

(3)**SYSTEM & MEANS OF WORKING**

System of working in force	:	Absolute Block System of working
Double Line/Single Line	:	Double Line
Block Instruments	:	SGE type lock and Block Instruments
Co-operative/Non co-operative	:	Non co-operative
Block Telephones	:	Attached with Block Instruments
Telephone provided at IBS	:	Telephone communication is provided between the Station Master of PUN and Down IBS Sig.No16 at KM 680.584 & UP IBS Sig.No15 at KM 694.970.

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

1	Standard of Interlocking	Standard – III (R)
2	Type of Signaling	MACLS
3	Mode of Operating the signals	Visual Display Unit (VDU)
4	Provision of Calling –On	Calling-on signals are provided

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	signals	below Home signals (i.e. in both UP & Down directions) as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b).
5	Provision of Shunt signals	Independent Shunt signal SH-3, SH-4 & SH-5 and dependent shunt signals SH-8 are provided for shunting purpose.
6	Emergency cross over	21 A&B at HWH end, and 22 A&B at VSKP end are provided.
7	Track circuits	All berthing portion of line No.2 & Line No.3 are track circuited. In addition there are short length track circuits in advance of Advanced Starter Signals and Home signal in both the directions are also provided. For Calling-on signals (Five Rail length) track circuits are also provided in rear of the Home signals in both directions. From last trailing point/fouling mark in either side of Yard to Advanced Starter Signals are also track circuited in UP and Down lines respectively. Indications for the above track circuits/Axle Counters are available on VISUAL DISPLAY UNIT at SM's office. White indication on the VISUAL DISPLAY UNIT indicates track clear and Red light indicates track occupied condition.
8	Axle counters	Entire Block Section between PUN-PSA and PUN-NWP are provided with Digital axle counter. The portion between last stop signals and the intermediate block stop signal plus 400M beyond is controlled by Analog Digital Axle counters on both up and down line between PUN-PSA and PUN-NWP under the system of absolute block system of working. Similar the portion between intermediate block stop signals to the first signal + adequate distance is controlled by the lock & block instruments on

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		<p>both Up and Down lines between PUN-PSA and PUN-NWP along with Digital Axle Counter and LVCD.</p> <p>The position of the Block section whether cleared or occupied are reflected in the VISUAL DISPLAY UNIT 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.</p> <p>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 and IB Home signal shall not come to OFF and the concerned instrument shall remain locked in last operated position.</p> <p>A resetting arrangement for resumption of the system in case of failure of axle counter has been provided in the SM office of PUN and the adjacent Block stations after being assured by both the SM that the last vehicle has arrived complete at the receiving station by exchanging Private Number</p> <p>then resetting to be complied with. (Details of resetting procedure given in this SWR).</p>
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		<p>In case of failure of analog Axle Counter the re-setting of axle counter must be done as per the procedure given in para No.5.0 of Appendix 'B' portion of this SWR. In the event of failure of Axle Counter/ Track circuit the clearance of loop lines and concerned point zone and main lines will be ensured by physical check by the SM on duty and train shall be admitted as per GR.3.69 and SR there to.</p> <p>NOTE: Before taking off reception and dispatch signals for UP and Down directions the SM on duty should ensure that the entire route including overlap and berthing portion is clear of all obstructions by observing the Track indication/Axle counter indication. The indication of track Axle counter will exhibit Red Light when track is occupied and White light when track is clear. There will be no track indication when any route is not set. Berthing portion of L1 and L4 is provided with analog Axle Counter and a Line verification Box is provided for ensure there is no vehicle for resetting in case of failure.</p>
9	Crank handle	<p>When any point fails to operate normally by the Route Setting operation through Visual Display Unit 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-2.19</p> <p>CH-1---21 A/B</p>

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		<p>CH-2---22 A/B CH-3---23 A/B,24 A/B CH-4---25 A/B,26 A/B,27.</p> <p>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 SM by tracking the mouse pointer on to the concerned crank handle button icon.</p> <p>This will enable two options to be displayed on the menu i.e. Crank handle Transmit control and Crank Handle Release control. To release the crank handle key, SM should click the Crank handle 'TRANSMIT' control option. After transmission the KEY IN indication will start flashing, now the key can be extracted from the EKT. After extracting the key from the EKT, the KEY IN indication will disappear. When the keys are taken out no signal can be taken "OFF" over the particular route on the points nominated by that Crank Handle. This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points.</p> <p>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 2.19 (j) of the Operating Manual. Correct setting, clamping and</p>
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		<p>padlocking of the points devolve on the SM on duty. (Details use of Crank Handle as per Appendix-'B').</p> <p>The cases of failure of motor point, it should be promptly reported to the concerned signal maintainer/SSE (Signal) for immediate rectification.</p>
10	Emergency Point operation:	<p>Emergency point operation facility is provided to operate the point from the Visual Display Unit in case of failure of point controlling track circuit/Axle Counter.</p> <p>Before doing the emergency operation, the Emergency Point Operation Key is to be made "KEY IN" by clicking the KEY IN menu. The user name and password is to be logged in. The user name is ECOR and the password of this station is PUN. On clicking the concerned point icon, a pop-UP menu is displayed carrying four options: 1) Normal 2) Reverse 3) Emergency Normal 4) Emergency Reverse. For emergency operation of concerned point, drag the pointer to either emergency normal or emergency reverse whichever is desired. A normal or reverse flashing indication will appear and the indication will be steady after the point is set to Normal or reverse, whichever is desired. After the completion of Emergency point operation, the key is to be KEY OUT by clicking KEY OUT menu. The user name and password is to be given for KEY OUT also. This action will be recorded in a counter. All such operations will be registered in the emergency point operation counter Register. Each operation of emergency point operation shall be recorded in the station diary and in</p>

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		the register meant for this purpose.
11	Showing of Veedor Counters	<p>One counter icon has been provided on the VDU. When selected a drop down menu will appear indicating the following counters.</p> <ol style="list-style-type: none"> 1. Emergency Route Release. 2. Emergency Point Operation. 3. Emergency Crank handle release. 4. Emergency Gate release. 5. I.B. Axle counters resetting for section PUN-PSA & PUN-NWP 6. LVCD axle counters resetting for section PUN-PSA. 7. LVCD axle counters resetting for section PUN-NWP. <p>When the pointing device is placed any one of the menu the latest counter number will pup-up on VDU</p>
12	Emergency route release indication:	<p>The Electronic interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route.</p> <p>When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), click on the concerned signal. After clicking by the left button on the mouse a pop-UP menu will appear as shown above-Click on the cancellation menu (Main/Calling on) of the concerned signal, the signal will immediately go to ON aspect. After doing so click on the route release menu, the route locked indication will</p>

		<p>start flashing for 120 second. After completion of 120 seconds, the White light along with the White strip of light will disappear suggesting the route has been released. This action will be recorded in a counter. The counter will increment the number for each and every such action.</p> <p>In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to release the route.</p> <p>Each operation of emergency cancellation of route should be recorded in the emergency route release counter register by registering the next higher number.</p> <p>All such operations and the new number should be recorded in the station diary Veedor counter register and in the train signal register.</p>
13	Emergency Crank Handle release.	As per para 3.5 of Appendix 'B'
14	Emergency Gate release.	As per para 4.3 of Appendix 'B'

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

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

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4.3 POWER SUPPLY:

- i) Auto changeover panel is provided in the Station Master's Office with the three power supplies viz., DN AT, UP AT and Local, for changing the switch to the required supply position.
- ii) Normally the switch will be kept towards AT1 or AT2 position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other AT. If power block is to be given on the Up line, Down AT must be available and vice-versa
- iii) In case of failure of one of the AT supply without any power block, the on duty SM. has to check the manual switches provided in the SM room. In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch. In case a failure of both AT1 & AT2 supplies a message shall be given to the AEE and SSE/PSI for prompt rectification.
- iv) For IPS system that provides power supply to the signaling installation 230V AC is taken from the selection output of the Auto change Over Panel in SM Office. There is a remote monitoring ASM box provided at the station to monitor the health of IPS.
- v) Auto changeover panel is provided in the Station Master's Office with the three power supplies viz., DN AT, UP AT and Local, for changing the switch to the required supply position.
- vi) Normally the switch will be kept towards AT1 or AT2 position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other AT. If power block is to be given on the Up line, Down AT must be available and vice-versa
- vii) In case of failure of one of the AT supply without any power block, the on duty SM. has to check the manual switches provided in the SM room. In case of failure of both AT supplies, the Local supply shall be utilized by operating the switch. In case a failure of both AT1 & AT2 supplies a message shall be given to the AEE and SSE/PSI for prompt rectification.
- viii) For IPS system that provides power supply to the signaling installation 230V AC is taken from the selection output of the Auto change Over Panel in SM Office. There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

REMOTE MONITORING ASM BOX:

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

- i) 50% depth of discharge (DOD) of battery. In this condition audio/visual alarm comes, which can be acknowledged with audio cut-off.
- ii) 60% DOD, which warns for emergency. The alarm for this condition is same as for condition 1.

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- iii) 70% DOD, which signals system, shut-down. In this condition signal feed is cut-off and all DC-DC converters continue working. Audio alarm continues till power supply is restored.
- iv) Any of the module fails, which calls for 'call S&T'.
Whenever there is a failure of power supply in one AT the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of power supply on both AT's and make an entry in the Station Diary duly initiating action for rectification of failure, if any. Any of the module fails, which calls for 'call S&T'.
- v) Whenever there is a failure of power supply in one AT the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of power supply on both AT's and make an entry in the Station Diary duly initiating action for rectification of failure, if any.

(5) TELECOMMUNICATIONS:

- i) Telephone attached to SGE Type lock and block instrument connected to NWP & PSA.
- ii) Hot line telephone provided between PUN-NWP and PUN-PSA.
- iii) Magneto phone communication is provided between SM/PUN and L.C. Gates at KM: 687/39-41, 681/31-33, 683/27-29 & 689/1-3.
- iv) The station is connected to VSKP-PSA train control phone.
- v) The station is connected to VSKP-PSA traction power control circuit.
- vi) Telephone communication is provided between the Station Master of Pundi and Down IBS Signal at KM 680/584 & UP IBS NO.15.
- vii) An Auto telephone is connected to Divisional HQs & Station between VSKP-PSA.
- viii) VHF set is provided at the station.
- ix) Telephone is connected with UP & DN CH locations 1 & 2 at both end of the yard.

(6) SYSTEM OF TRAIN WORKING:

6.1 DUTIES OF TRAIN WORKING STAFF

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

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

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

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

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

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

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

6.1.3 ASSURANCE OF STAFF IN THE ASSURANCE REGISTER.

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

6.2 Conditions for Granting Line Clear :

a. The trains are worked under Absolute Block system with double line working and MACL signaling vide GR 8.03.

b. **Adequate distance for reception of trains at PUNDI.**

Line No.	For UP Trains		For DN Trains	
	FROM	TO	FROM	TO
Line No.4(Commo n Loop)	UP STR.SIG NO.9	END OF SAND HUMP	DN STR.SIG No.8	Up to DS 27 or DN ADV.STR. No.12
Line No.3 (DN Main)	---	---	DN MAIN STR.SIG No.10	DN ADV.STR. No.12
Line No.2 (UP Main)	UP MAIN STR.SIG. No.11	UP Adv. STR. SIG No.13	---	---
Line No.1 (UP loop)	UP STR.SIG. No. 07	UP ADV. STR.SIG.No.13 Or END OF SAND HUMP	---	---

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

6.2.1.1 SETTING OF POINTS AGAINST BLOCK LINE:

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

Safety Point Alarm Unit (SPAU):

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

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

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

6.2.1.2 RECEPTION OF TRAIN ON BLOCKED LINE:

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

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

NIL

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE.

NIL

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

NIL

6.2.1.6 ANY OTHER SPECIAL CONDITIONS.

- i) Starter Signal No.7 placed at a distance of 3M from the replacement track circuit glued joints (in order to increase CSL) as per Railway Board's letter No.(i) 2012/SIG/SEM-II/MISC. DATED: 10.10.2012 and (ii) 2012/SAFETY

(A&R)/915 DATED: 13.06.2013.

- ii) SM's line verification keys are provided in a box individually sealed and pad locked kept outside SM's office to be operated by SM for resetting of Axle counters on Line no.1 & 4.

6.3 CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS.

Condition laid down in GR 3.36, 3.38, 3.40, 3.43, 3.49, 3.07(4), 3.42.02(iv), 3.42.03, 3.75, 4.23 and SRs thereto to and other relevant provisions of G&SR, BWM and OM shall be followed.

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

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

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

According to the existing interlocking at this station the following simultaneous reception and despatch of trains is permitted.

a)	Reception of an UP train on Up loop setting Sand Hump.	AND	Despatch of another UP train from Up Main or from common loop
b)	Reception of a Down train on common loop setting Over run line.		Despatch of another Down train from Down Main line.
c)	Reception of an UP train on Common Loop setting Sand Hump.		Despatch of another UP train from UP Main or from UP loop line.

6.5 COMPLETE ARRIVAL OF THE TRAINS:

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

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

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

Arrival Certificate is received from the station in advance supported by a private

number. Train passing on adjacent line shall be stopped and Guard and Loco pilot shall be issued with caution Order to proceed cautiously and stop short of any obstruction as per SR. 4.17.03.

On occasions when motor trolley follows a train the points shall not be operated until the following motor trolley is admitted on the same line. In the event of motor trolley is delayed in the section the SM on duty shall take action in terms of SR.15.25.03(b)(vi).

6.6 DESPATCH OF TRAINS:

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

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

IBS:

The block section between PUN-NWP and PUN-PSA has been split into two block sections by providing Intermediate Block Stop signals. Details are shown in Appendix-F.

6.7 TRAINS RUNNING THROUGH

- a) The provision of GR 3.4, 4.17, 4.42 with relevant SRs and SR 3.42.02 (a) (iv) and other relevant provision of BWM shall be observed.
- b) The sequence for taking 'OFF' signals for run through trains is governed by SR 3.42.02 (a).
- c) In every case in which trains are permitted to run through on a non isolated line, all shunting shall be stopped and no vehicle unattached to an engine or not properly secured in accordance with rule 5.23 may be kept standing on a connected line which is not isolated from through line vide SR 4.11 (2).
- d) The SS/SM 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 3.42, 4.17, 4.42 and SR 4.42.02 (b) (i), (ii)].

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

TRACK CIRCUITS:	In case of failure of track circuits, the clearance of the concerned line should be ensured physically before a train is piloted.
AXLE COUNTER:	If the axle counter fails between the block sections, resetting procedure will be adopted as per Para 5 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 for rectification.
BLOCK INSTRUMENTS:	In the event of partial/total failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer SR 6.02.03 & 6.02.06)
RECEPTION OF TRAIN ON OBSTRUCTED LINE:	Whenever trains are to be admitted on an obstructed line GR 5.09 & SRs there to, to be observed.
RECEPTION OF A TRAIN ON NON SIGNALLED LINE:-	NIL
DEFECTIVE SIGNALS:	<p>Whenever signals become defective, the procedure laid down in GR 3.68 to 3.71, 3.80 and SR 3.68.01 (c)] shall be followed.</p> <p>In case of disconnection of signal and interlocking for repairs and maintenance, procedure laid down in GR and relevant SRs shall be followed. In the event of signal showing no lights, Station Master on duty shall before giving line clear initiate action in accordance with the procedure prescribed in GR and the relevant SRs. [Refer GR 3.51, 3.69, 3.49 (4), 3.68 to 3.77]</p>
INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:	<p>However, before declaring a point is defective, the setting of the point on the route to which it applies shall be inspected by the Station Master irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.70 & SR 3.77.01(b)]</p> <p>Initiate action in accordance with the procedure prescribed in GR and relevant Subsidiary Rules there to. [Refer GR 3.49(4) and 3.68, 3.77]</p>
DEFECTIVE INTERLOCKING:	When interlocking becomes defective the SM on duty shall be responsible for correct setting, clamping and

	padlocking of points for admission of train. [Refer SR 3.69.03(b) (i)& 3.69.01].
DEFECTIVE/DAMAGED POINTS	<p>When any point fails to operate normally by the route setting operation through VDU it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system.</p> <p>When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle.</p>
DEFECTIVE INTERMEDIATE BLOCK STOP SIGNAL:	<p>Whenever intermediate block stop signals fails, the Station Master controlling the IBS shall inform the Station Master on duty in advance the fact and keep the IBS working under suspension. The entire section between two block station controlling the block section shall be treated as one section and procedure laid down in GR 3.75 with SR there to and also the procedure given in Appendix 'B' of SWR shall be followed.</p> <p>The LP of the train shall be issued with pilot memo on form T/369(3b) to pass the defective IBS at 'ON position supported by private number & Id number received from Station in advance.</p>

6.9 PROVISIONS FOR WORKING OF TROLLEYS/ MOTOR TROLLIES, MATERIAL LORRIES ETC.

- i) The section where Axle counters are provided in lieu of track circuits, Trolleys, Motor Trolleys, Lorries etc., which are not insulated, shall not be allowed to run except on line clear.
The IBS working shall be suspended and the entire section shall be treated as one section for allowing motor trolley / material lorry/ tower wagon.
- ii) Motor Trolleys/ Tower Wagons/ Material Lorries are not likely to actuate the Axle counters correctly. When they are to run over the section split by Axle counters, the whole section is to be treated as one section and next train to started after the last train has arrived complete.
- iii) Motor Trollies shall be worked as per GR 15.25 & SR thereto and BWM 5.11(2), 5.12, 5.13 and 5.14(2)(b). Material trollies shall be worked as per GR 15.27 and SRs thereto and BWM 5.11(2), 5.13, 5.13(2)(b). The authority to proceed shall be on form T/369(3b).

(7) BLOCKING OF THE LINES:

(B.MADHU VENKATESWARLU)
DSTE / WAT

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

Station Working Rules of **PUNDI** station

A clear remark in RED ink shall be made immediately in the Train Signal Register indicating time and number of running line blocked. A record thereof shall be made in the Station diary.

(8) SHUNTING**8.1 GENERAL PRECAUTIONS**

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

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:

Shunting in face of an approaching train is strictly prohibited.

8.3 PROHIBITION OF SHUNTING – ANY SPECIAL FEATURES IF ANY:

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

8.4 SHUNTING ON SINGLE LINE

Not Applicable

8.5 SHUNTING ON DOUBLE LINE

- a) Block Back: The procedure of block back/ block forward given in BWM 5.15(1)(b) shall be followed.
- b) Block Forward: GR 8.05 and SRs there to shall be followed.
- c) Following Train travelling away: Shunting or obstruction for any other purpose shall not be permitted in the block section in rear unless it is clear and is blocked backed vide GR 8.06.
- d) Up to IBS: Shunting or obstruction for any other purpose shall not be permitted in the block section in advance up to IBS unless it is clear and is blocked forwarded vide GR 8.06.
- e) Beyond IBS: Shunting shall not be permitted in block section in advance or up to IBS unless it is clear and is blocked forward.
- f) During failure of Block Instrument: During failure of SGE Double line Block instrument shunting in the block section in advance / in rear up to & beyond IBS shall not be performed unless the section is clear of all trains and the Block section is Blocked back/ Blocked forward as the case may be.

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

While shunting in the Track Machine siding, it should be authorized by shunt signal/issuing shunting authority on form T/806 clearly mentioning the limits up to which shunting is permitted as also the lines occupied in shunting.

The relevant provisions of GR 5.14 and SRs thereto shall be meticulously followed for shunting operations in goods shed.

(9) ABNORMAL CONDITIONS:**(a) The rules to be observed in the event of abnormal conditions:****i) During partial interruption/ failure of electrical communications instrument:**

During partial interruption of communications trains shall be worked in accordance with BWM 5.16 & 5.23 & SR 6.02.06. However the IBS working on the affected section shall be suspended and entire section between the two stations shall be considered as one section for train working.

ii) The Authority to proceed in to the occupied block section in case obstruction of line or accident etc. :

Whenever it becomes necessary to send a train into the block station already occupied by another train or due to accident, trains shall be worked in accordance with SR 6.02.05. The authority to proceed shall be block ticket (T/A 602) or as per SR 6.02.05.

iii) Trains delayed in block section:

When a train carrying passenger does not arrive within '10' minutes or a goods train within 20 minutes after allowing for its normal running time from the station in rear the Station Master at the station in advance shall immediately advise the station in rear and the Section Controller on duty of this fact. The procedure laid down in GR 6.04 and SR thereto shall be followed.

iv) Failure / Passing of intermediate block stop signal at 'ON':

When an intermediate block stop signal becomes defective (cannot be taken 'OFF') and when the station master in rear of the IBS section is contacted by the LP over signal post telephone (provided on the IBS) the SM on duty of the IBS section shall after obtaining line clear for the said train from the station in advance authorize the LP on signal post telephone to pass the IBS at 'ON' giving the private number and ID number received from the station in advance while granting line clear. The detailed procedure laid down in GR 3.75 with relevant SR and as given in Appendix 'B' shall be followed.

v) Failure of axle counter block / BPAC:

The section between last stop signal and 400M beyond IBS is controlled block proving Axle counters. When the block proving Axle counters BPAC fail to prove the clearance of the section between last stop signal and IBS no train shall be allowed up to the IBS unless the last train arrived complete at the station in advance and complete arrival confirmed by the station master on duty at the station in advance support by private number.

vi) Failure of MTRC:

NIL

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

- i) The detailed procedure for emergency crank handle operation of motor operated points are mentioned in Para No.4.1 (9)
- ii) Procedure for Emergency operation of point with axle counter track circuit failure are mentioned in Para No.4.1 (10)

c) Certification of clearance of track before "calling on signal" operation is initiated:

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

d) **Reporting failure of points, Track circuits / Axle counters and interlocking:**

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

9.1 TOTAL FAILURE OF COMMUNICATIONS:

- i) In the event of Total Failure of Communication on double line trains shall be worked in accordance with provisions SR 6.02.03.
- ii) In the event of single line working on double line section during total failure of communications the provisions laid down in SR 6.02.02 shall be followed.

Note:

The last stop signal & IBS shall not be taken "OFF" and block instrument working shall be suspended during the period till the normal working is restored.

9.2 TEMPORARY SINGLE LINE WORKING ON A DOUBLE LINE SECTION:

In the event of single line working on a double line section when communication is available, the provision laid down in SR 6.02.01 shall be followed. However the IBS signal in the section shall be kept suspended and the entire section shall be treated as one section.

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

The procedure laid down in GR 6.09 with SR there to shall be followed. The last stop signals shall and IBS signal shall not be taken 'OFF' but an authority to pass the last stop signal and IBS signal at 'ON' shall be issued in the prescribed form T/369 (3b).

(10) VISIBILITY TEST OBJECT:

The signal lights of UP starter signal No.7 of Line No.1 and DN Main Line Starter signal No.10 respectively during Day and Night are the visibility test objects vide GR 3.61(2)(b),(iii).

(11) ESSENTIAL EQUIPMENT AT THE STATION:

Details are given in Appendix 'E'.

**(12) FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG
PROCEDURE FOR WORKING OF TRAINS DURING FOGGY WEATHTER**

- i) During thick, foggy or tempestuous, dust storm etc weather, when the visibility of the signal is impaired. The SM on duty shall initiate action to depute Fog Signalmen with Detonators Vide GR 3.61 in order to indicate the location of the station approach signals to the driver of an approaching train.
- ii) The Fog Signalmen shall be proceed to the 1st approaching stop signal of the station and place one detonators at a distance of 270M from the first approaching stop signal towards the approaching train and another detonator at a distance of 10M from the first one and he shall stand 45M away from the detonator.
- iii) The Fog signal men shall be permanent employees, no temporary or casual labour shall be deployed as Fog signal man.
- iv) The assurance of Fog signal man available at the station (including Engineering Branch if available) shall be obtained in the fog signal register every year in the month of 'October'.
- v) Details of supply of detonators, available stock, use, and testing etc. shall be maintained in the fog signal register maintained at the station as per GR 3.64 and SR there to

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

LIST OF APPENDICES

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

APPENDIX 'A'
LEVEL CROSSING GATE NO.ML-376 AT KM 681/31-33

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

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

Sl.no	Description	Remarks
1.	Number of Level Crossing Gate	ML-376
2.	Engineering or Traffic Gate	Engineering
3.	Under control of Station Master/Permanent Way Inspector.	SSE/P/NWP
4.	Location at KM.	681/31-33
5.	At Station	---
6.	In between stations	PUN-PSA
7.	BG / MG / NG	BG
8.	Single line / Double line / Multiple line	DoubleLine
9.	Normal Position	Open to Road Traffic.
10.	Interlocked / Non-Interlocked	Interlocked.
11.	Means of Interlocking	Interlocked with Gate signals.
12.	Provision of Gate signal at Kms.	i) UP line-681.614 mts. ii) DN line 681.974 mts.
13.	Signalling arrangements	MACLS
14.	Means of Communication – Telephone / Bell etc.	Telephone connection with SM/PUN
15.	Width of level crossing gate	7.5 M.
16.	Type of road (NH / SH / Others)	Others.
17.	Name of Road	Village Road
18.	Metalled / non-metalled	Kacha.
19.	Approach road	Non Metalled
20.	Width of the road	5.50 M
21.	Angle of road crossing (in case of the skew gates)	90°
22.	Road gradient (if any)	(i) North/East side: Level. (ii) South/West side:Level.
23.	Road alignment (straight/curve) (i) North / East side (ii) South / West side	i) North /East side: Straight. ii) South /West side: Straight.
24.	Provision of height gauges	Provided
25.	Type of Barriers	Lifting Barrier
26.	Length of Check rails	9.50 M
27.	Road surface in between L-Xing gates	Level/C.C.Blocks.
28.	Length of Rumble strip / speed breakers	5.5M
29.	Road signs	Provided
30.	Speed breaker indication board	Provided
31.	TVU	25760 of OCT/2018.
32.	Census next due on	10/2021.
33.	Demarcation for placement of Detonators	Provided
34.	No. of Gatemen working	2 (Two)
35.	Nearest Railway Medical Assistance	PUNDI
36.	Nearest Private Medical Assistance available (if any)	PSA, PUN
37.	List of equipment available Yes / No	Yes

1.2 EQUIPMENTS:

Sl.No	ITEMS	QUANTITY/NUMBERS
1	LED based flashing Tri Colour Hand Signal Lamp.	3Nos.
2	Hand Signal Flag Green.	1 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 mark.
7	Detonators	10 in tin case
8	Gate lamps	1 Nos.
9	Tommy Bar	2 Nos.
10	Mortan Pan	1No
11	Spade/Fowarh	1No
12	Rammer	1No
13	Pick Axe	1No
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 gateman 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 size chain for use in case of failure of Gate Boom.	2 No.

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

- Gate Working Instructions In Hindi/English.
- Gate Working Instructions in Local vernacular language.
- Gateman Rule Book in Local vernacular language.
- List for tools and books.
- Duty registers.
- Certificate for working as gateman.
- Bio-data particulars of Gateman, including date of passing vision test, Initial/refresher course, safety camp etc.
- Accident Register.
- Records of last census of road traffic at level crossing gate.
- Public Complaint Book.
- Inspection Book & S&T Register.

1.4 Mode of Operation :

Gate shall normally be kept open to road traffic, whenever it is required to close the gate Station Master on duty shall inform the Gateman about the direction and description of the train intended to receive/dispatch shall insure clearance of road traffic, close and lock the gate. There after transmit the control to the Station Master on duty as per the following procedure:

- i. After the gate is closed and locked against road traffic than key 'G' is obtained releases G.F-2.
- ii. G.F.-2 when reversed locked the level crossing boom and releases 1GF & 3GF respectively.

1.5 DUTIES OF GATEMEN:**[1] 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) Gateman 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.
- c) In night time, 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:

- a) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunshine.
- b) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrive and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- c) Except where otherwise prescribed under special instruments, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- d) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- e) Gateman shall also be prepared to repeat any signal which guard may give to LP on walkie-talkie or in any other way.
- f) If lifting barriers get damages or becomes out of order, the gateman shall use the spear chain with disc and padlock for securing the gate against road traffic. Gate man shall report to the station master, gang mate or permanent way inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- g) In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
- h) 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 LP report the defect at the next station.

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- i) Gateman shall wear badge and prescribed uniform while on duty at level Crossing gate.
- j) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- k) Gateman shall work the gate as per gate working instructions and remain well conversant with this instruction.
- l) Gateman shall ensure that equipment supplies at the gate are in good order and ready for immediate use.
- m) Gateman shall ensure that equipment supplies at the gate are in good order and ready for immediate use.
- n) Gateman shall see that the channel for the flange of the wheel is kept clean.
- o) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- p) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- q) Gateman shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- r) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

(4) ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

- a) He shall take prompt action to warn the driver/guard of the passing train by showing red flags by day and red light by night.
- b) He shall simultaneously try to draw the attention of the LP/guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
- c) If LP/guard fails to take notice, gateman shall not stop immediately inform the station master to take appropriate action under exchange of private number.
- d) In case of trains parting, gateman shall not show stop hand signal but shall show prescribed signal for trains parting.
- e) He shall endeavor to attract the attention of the LP/guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting then and bringing them together in repeated Up and Dn motion as high and as low as possible.
- f) In case of trains does not stop, gate shall immediately inform the station master to take appropriate action under exchange of private number.

(5) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- a) In case of an observation at the level crossing gates, Gateman shall maintain the gate signals, if any in the 'ON' position.
- b) Thereafter, if he is unable to remove the observation, gateman shall immediately advise the station master on duty, if connected on telephone, regarding the defects/observations at the gate, under exchange of private number.
- c) 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.
- d) The gateman shall protect the line as under:

[A] ON DOUBLE LINE SECTION:

- i. In the both lines are obstructed The Gateman shall plant a red banner flag by day and the red light by night 5 meters away on posts duty provided for the purpose. He shall first protect the line on which a train is executive to arrive first.
- ii. Then he will similarly plant the other red banner flag by day and the red light by night 5 meters away from the site of observation.
- iii. Gateman shall then proceed to protect the gate along with detonators, fuses and red flags by day and red hand signal lamp by night.
- iv. Gateman shall proceed exhibiting red flags by day and red light by night on the line on which a train is excepted to arrive first, to a point 600 Mtrs and place one detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line shall return to the level crossing gate picking up the intermediate detonator on this way back.
- v. Thereafter he shall proceed on the other line, showing red hand signal, similarly place the detonators as described in Para (4) about and return to the site of obstruction, picking up the intermediate detonator on this way back.
- vi. Having returned to the gate, he must then take steps to remove the obstruction and warn the driver 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 the distance as far away as he can go.

[B] OTHER ACTION 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 by track or if lifting barrier or any other part of the gate found obstruct 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 driver, owner and relay these details to the nearest Station Master or Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or through means available.

(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.

LEVEL CROSSING GATE NO.ML-377 AT KM 683/27-29**1. GENERAL****1.1 DESCRIPTION OF THE LEVEL CROSSING GATE :**

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

Sl.no	Description	Remarks
1.	Number of Level Crossing Gate	ML-377
2.	Engineering or Traffic Gate	Engineering
3.	Under control of Station Master / Permanent Way Inspector.	SSE/P/NWP
4.	Location at KM.	683/27-29
5.	At Station	---
6.	In between stations	PUN-PSA
7.	BG / MG / NG	BG
8.	Single line / Double line / Multiple line	Double Line
9.	Normal Position	Open to Road Traffic.
10.	Interlocked / Non-Interlocked	Interlocked.
11.	Means of Interlocking	Interlocked with Gate signals.
12.	Provision of Gate signal at Kms.	i) UP line-683.162 mts. ii) DN line 683.522 mts.
13.	Signalling arrangements	MACLS
14.	Means of Communication – Telephone / Bell etc.	Telephone connection with SM/PUN
15.	Width of level crossing gate	7.5 M.
16.	Type of road (NH / SH / Others)	Others.
17.	Name of Road	Village Road
18.	Metalled / non-metalled	Kacha.
19.	Approach road	Non Metalled
20.	Width of the road	5.50 M
21.	Angle of road crossing (in case of the skew gates)	90 ⁰
22.	Road gradient (if any)	(i) North/East side: Level. (ii) South/West side:Level.
23.	Road alignment (straight/curve)	i) North /East side: Straight. ii) South /West side: Straight.
24.	Provision of height gauges	Provided
25.	Type of Barriers	Lifting Barrier
26.	Length of Check rails	9.50 M
27.	Road surface in between L-Xing gates	Level/C.C.Blocks.
28.	Length of Rumble strip / speed breakers	5.5M
29.	Road signs	Provided
30.	Speed breaker indication board	Provided
31.	TVU	29845 of MAY/2018.
32.	Census next due on	05/2021.

Station Working Rules of **PUNDI** station

33.	Demarcation for placement of Detonators	Provided
34.	No. of Gatemen working	2 (Two)
35.	Nearest Railway Medical Assistance	PUNDI
36.	Nearest Private Medical Assistance available (if any)	PSA
37.	List of equipment available Yes / No	Yes

1.2 EQUIPMENTS:

Sl.No	ITEMS	QUANTITY/NUMBERS
1	LED based flashing Tri Colour Hand Signal Lamp.	3Nos.
2	Hand Signal Flag Green.	1 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 mark.
7	Detonators	10 in tin case
8	Gate lamps	1 Nos.
9	Tommy Bar	2 Nos.
10	Mortan Pan	1No
11	Spade/Fowarh	1No
12	Rammer	1No
13	Pick Axe	1No
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 gateman wearing glasses.	1No
19	Board demarcation protection of level crossing gate diagram in case of obstruction	1No
20	Bucket	1No
21	Whistle	1No
21	Wall Clock	1 No
23	A small size chain for use in case of failure of Gate Boom.	2 No.

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

- a. Gate Working Instructions In Hindi/English.
- b. Gate Working Instructions in Local vernacular language.
- c. Gateman Rule Book in Local vernacular language.
- d. List for tools and books.
- e. Duty registers.
- f. Certificate for working as gateman.
- g. Bio-data particulars of Gateman, including date of passing vision test, Initial/refresher course, safety camp etc.
- h. Accident Register.
- i. Records of last census of road traffic at level crossing gate.
- j. Public Complaint Book.
- k. Inspection Book.
- l. S&T Register.

1.4 Mode of Operation :

Gate shall normally be kept open to road traffic, whenever it is required to close the gate Station Master on duty shall inform the Gateman about the direction and description of the train intended to receive/dispatch shall insure clearance of road traffic, close and lock the gate. Thereafter transmit the control to the Station Master on duty as per the following procedure:

- i. After the gate is closed and locked against road traffic than key 'C' can be extracted from EKT-1.
- ii. Key 'C' thus extracted is inserted in EKT-2 and turned 'Key -IN' contact of EKT-2 along with switch 'GS-1' and 'GS-2' reversed will clear UP & DN stop signal respectively.
- iii. Dead approaching locking of 60 seconds with back locking is provided on 'KEY-C' when in 'EKT-2'.
- iv. In case of emergency key 'N' (chainage with crank handle) is extracted from EKT-3 electromechanically free provided at gate lodge (in a locked and sealed red box glass cover) for manual operation of individual lifting barrier by crank handling.
- v. Extraction of key 'N' shall put back to all the relevant signal at 'ON'.

1.5 DUTIES OF GATEMEN:**[1] 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 nighttime, 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 sunshine.
- 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 instruments, 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 LP on walkie-talkie or in any other way.
- vi. If lifting barriers get damages or becomes out of order, the gateman shall use the spear 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 even by disconnecting the signal or the wire if necessary.
- 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 LP 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 supplies at the gate are in good order and ready for immediate use.
- xiii. Gateman shall ensure that equipment supplies at the gate are in good order and ready for immediate use.
- xiv. Gateman shall see that the channel for the flange of the wheel is kept clean.
- xv. Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- xvi. Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.

- xvii. Gateman 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 driver/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 driver/guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
- iii. If LP/guard fails to take notice, gateman shall not stop immediately inform the station master 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 LP/guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting then and bringing them together in repeated Up and Dn motion as height and as low as possible.
- vi. In case of trains does not stop, gate shall immediately inform the station master to take appropriate action under exchange of private number.

(5) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

The gateman shall protect the line as under:

- i. In case of an observation 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 observation, gateman shall immediately advice the station master on duty, if connected on telephone, regarding the defects/observations 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.

[A] ON DOUBLE LINE SECTION:

- i. In the both lines are obstructed The Gateman shall plant a red banner flag by day and the red light by night 5 meters away on posts duty provided for the purpose. He shall first protect the line on which a train is executive to arrive first.
- ii. Then he will similarly plant the other red banner flag by day and the red light by night 5 meters away from the site of observation.
- iii. Gateman shall then proceed to protect the gate along with detonators, fuses and red flags by day and red hand signal lamp by night.
- iv. Gateman shall proceed exhibiting red flags by day and red light by night on the line on which a train is excepted to arrive first, to a point 600 Mtrs on BG and place on e detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs on BG from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line shall return to the level crossing gate picking up the intermediate detonator on this

way back.

- v. Thereafter he shall proceed on the other line, showing red hand signal, similarly place the detonators as described in Para (4) about and return to the site of obstruction, picking up the intermediate detonator on this way back.
- vi. Having returned to the gate, he must then take steps to remove the obstruction and warn the driver of the approaching train.
- vii. On those Meter Gauge sections where trains run at more than 75 Km/h, detonators shall be placed at distance to be specified under special instruction by the administration.
- viii. In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at the distance as far away as he can go.

[B] OTHER ACTION 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 by track, or if lifting barrier by leaf gates or any other part of the gate found the track, or if there is any other obstruction at the gate, the gate man shall take immediate action.
- iii. He shall note down, owner and relay these details to the nearest Station 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.

(7) 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, SM shall issue a caution order to the driver of the departing train.
- ii. SM shall advise the LP 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 SM shall advise the SM at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- v. The SM at the dispatching end shall then issue a caution order to the driver before dispatching a train in the block section from his end.
- vi. SM will also advise the gateman through Gang man/Patrolman /LP of the first train that the telephone has become defective.
- vii. SM 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.

(8) Failure of Lifting Barriers:

- i. When the gate cannot be closed due to failure of lifting barriers, the gate man shall Immediately Inform the SM on duty under exchange of private number, and ensures 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 LP of the approaching train.
- v. SM on duty shall issue caution order to the LP of a departing train.
- vi. He shall also advise the SM at the dispatching end, under exchange of private number, to issue a caution order to the driver 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.

(9) 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 or key transmitter than gate man must immediately inform the SM on duty on telephone, under exchange of private number.
- ii. If Emergency Key is available at the gate lodge, gateman will take it out from the sealed box by braking the seal and open the gate for road traffic.
- iii. The record of the date and time of breaking the sealed cover of emergency key box shall be recorded and signed with reasons.
- iv. Thereafter, the gate must be treated as non-interlocked and produced for reception / Dispatch of trains as prescribed for non-inter locked gates, should be adopted.
- v. SM on duty shall issue caution order to the driver 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 the driver before dispatching a train in block section for his end.
- vii. SM shall advice S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- viii. Normal working will be resumed only after S&T staff repair the key transmitter and issue re-communication / fit memo for the same.
- ix. After rectification, the Emergency key shall be replaced in the emergency key box and re sealed by the S&T maintainer.

(10) Failure of the Gate Key with the gate in open condition:

- i. The gate key cannot be extracted from the which, gate signal level or key transmitter then gateman must immediately inform the SM on duty on telephone, under exchange of private number.

- ii. Thereafter, the gate must be treated as non-interlocked and procedure for reception /dispatch of 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. SM on duty shall issue a caution order to LP of a departing train.
- v. He shall also advise the SM at the dispatching end, under exchange of pre-cut number, to issue a caution order to the driver before dispatching a train in the block section from his end.
- vi. SM shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- vii. After rectification the, Emergency Key Box and resealed by the S&T maintainer.

(11)**Defective Gate Signals:**

- i. The gate man shall treat the gate signal as defective and must not lower 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 leaf gates when the gate is in open condition.
- ii. If the gate or the gate signal /distant signal becomes defective in 'OFF' position, the gateman will make all efforts to put it at 'ON' position.
- iii. The gate man will immediately advise the SM on duty, under exchange of private number regarding defective gate signals.
- iv. Thereafter, the gate must be treated as non-interlocked and procedure for reception /dispatch as prescribed for non-interlocked gates should be adopted.
- v. He shall show green hand signal flag by day and green light by night to the passing
- vi. train after closing the gate.
- vii. SM on duty will issue a caution order to the driver of a departing train. He shall also advise the station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the driver before dispatching a train in the block section from his end.
- viii. SM shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- ix. Normal working will be resumed only after S&T staff rectifies the defective gate signal and issue reconnection /fit memo for the same.

(12)**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 order 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 SM on duty regarding the defects /obstruction at the gate, under exchange of private number.
- iv. If there is no response from the SM after two or three attempts, he shall first protect the gate and then inform the phone.

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- 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 driver, owner and relay these details to the SM 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 SM shall also inform the SM 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 obstruction the gateman shall inform to the SM accordingly, under exchange of private number.
- x. SM shall then issue a caution order to LP 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 the means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstruction.
- xii. SM shall advise maintenance staff responsible for maintaining the lifting barriers/leaf
- xiii. Normally working will be resumed only after maintenance staff rectifies the defective lifting barriers and issue reconnection /fit memo for the same.

(13) 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.

LEVEL CROSSING GATE NO.ML-380 AT KM 687/39-41**1. GENERAL****1.1 DESCRIPTION OF THE LEVEL CROSSING GATE :**

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

Sl.no	Description	Remarks
1	Number of Level Crossing Gate:	ML-380
2	Engineering or Traffic Gate:	Traffic gate
3	Under control of Station Master/Permanent Way inspector:	SM/PUN
4	Location at KM:	687/39-41
5	At Station	PUN
6	In between station	PUN-PSA
7	BG/MG/NG:	BG
8	Signal line/Double line/Multiple line	Double line
9	Normal Position:	Open to Road Traffic
10	Inter Locked/Non-Interlocked:	Interlocked
11	Means of interlocked:	Electrical key transmission by control-31.
12	Provision of Gate signal at Kms:	1. UP line: Station signal 2. DN line: Station signal
13	Signaling arrangement:	MACLS
14	Means of communication-Telephone/Bell etc:	Telephone connected with PUN station.
15	Width of level crossing gate:	7.5mtrs
16	Type of road {NH/SH/Other}:	Others
17	Name of road:	Station road of PUN.
18	Metalled /Non-Metalled:	Metalled
19	Approach road:	Level
20	Width of the road:	7.5mtrs.
21	Angle of road crossing {In case of the skew gates}:	90°
22	Road gradients {If any}:	1. North/East side: Level. 2. South/East side: 1 in 100.
23	Road alignment {Straight/Curve}:	1. North/East side: Straight 2. South West side: Straight.
24	Provision of height gauge:	Provided.
25	Type of Barriers	Couple Lifting Barriers.
26	Length of check rail:	9.50 mtrs.
27	Road surface in L-Xing gate:	Level C.C Blocks
28	Length of Rumble strip /speed breakers:	5.5mtrs
29	Road signs:	Provided
30	Speed breaker indication board:	Provided
31	TVU:	57996 Oct.-18
32	Census next due on:	Oct-2021.
33	Demarcation for placement of detonators:	Provided

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34	No. of Gate men working:	Three
35	Nearest Railway Medical Assistance:	Rly. Health Unit Palasa.
36	Nearest Private Medical Assistance {If Any}:	Palasa & Pundi
37	List of equipment available Yes/No:	YES

1.2 EQUIPMENTS:

Sl.No	Description	Quantity	To be used as
1	LED based flashing Tri colour Hand signal lamp	Two	One for use and another for spare
2	Green Hand Signal Flag	One flag mounted on sticks	To hold in furled condition and another for spare
3	Red Hand Signal Flag.	Two flag mounted on sticks	One to hold in furled condition and another for spare
4	Red Banner Flag mounted with sticks.	Single line-2, Double Line-2, Multiple line-3	In case of obstruction, one flag is to be displayed on each line except on single line it is to be placed on either side of the line.
5	Spare chains with padlocks	2 chains with padlocks	For securing gate against road traffic in case of gate boom cannot be closed.
6	Stop Boards	2 retro reflective stop boards.	To display towards road traffic when gate is secured by gate chains due to failure of booms.
7	Padlocks	One	To lock the door of the gate lodge in case of necessity.
8	Detonators	Ten (10) in a tin case	For use in case of obstruction of track.
9	Tommy Bar	1No	For leveling the soil surface or to clean the channels of rails.
10	Bucket	One	To keep water
11	Whistle	One	For alerting road users on approach of train and LP/Guard to call their attention.
12	Wall clock	One	To note down the timings in PN/Log book.
13	A small chain for use in case of failure of gate boom lock	Two	For securing boom in closed condition in case of failure of boom lock.

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.

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9. Records of last census of road traffic at level crossing gate.
10. Public Complaint Book.
11. Inspection Book.

1.4 MODE OF OPERATION:

Gate shall normally be kept open to road traffic, whenever it is required to close the gate Station Master on duty shall inform the Gateman about the direction and description of the train intended to receive/dispatch shall insure clearance of road traffic, close and lock the gate. Thereafter transmit the control to the Station Master on duty as per the following procedure:

- I. After the gate is closed and locked then key 'Q' can be extracted from EKT-1.
- II. Key 'Q' thus extracted is inserted in EKT-2 & transmitted electrically to panel in conjunction with switch GS (Gate Slot) reversed releases concerned UP & DN signals respectively.
- III. For opening the gate SM transmits control No.31 Key 'Q' is extracted from EKT-2 inserted in EKT-1 & turned.
- IV. In case of emergency key-'K' (chained with boom crank handle) is extracted from EKT-3. Electronically free provided at gate lodge (in a locked and sealed red box) for manual operation of individual lifting barriers by crank handling in case of emergency.
- V. Extraction of key 'K' shall put back all the relevant signals at 'ON'.
- VI. Switch GS (Gate Slot) is provided in the gate lodge to put back the concerned UP and DN signals to 'ON' in case of emergency.

1.5 DUTIES OF GATEMEN:

[1] 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: -

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

(3) ROUTINE DUTIES OF GATEMAN:

- 1) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunshine.
- 2) 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.
- 3) Expect 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.
 - 4) 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.
 - 5) Gateman shall also be prepared to repeat any signal which guard may give to loco pilot on walkie-talkie or in any other way.
 - 6) If lifting barriers get damages or becomes out of order, the gateman shall use sliding boom barrier to close the gate. 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.
 - 7) In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
 - 8) At the gate whose signal has become defective the Gateman shall close and lock the lifting barrier/Sliding boom 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.
 - 9) Gateman shall wear badge and prescribed uniform while on duty at level Crossing gate.
 - 10) Gateman shall ensure that he is having competency certificate in his possession while on duty.
 - 11) Gateman shall work the gate as per gate working instructions and remain well conversant with this instruction.
 - 12) Gateman shall ensure that equipment supplies at the gate are in good order and ready for immediate use.
 - 13) Gateman shall see that the channel for the flange of the wheel is kept clean.
 - 14) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
 - 15) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
 - 16) 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.
 - 17) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

(4) ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

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

- a) 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.
- b) 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.

- c) If loco pilot/guard fails to take notice, gateman shall immediately inform the station master, on telephone, to take appropriate action under exchange of private number.
- d) In case of trains parting, gateman shall not show stop hand signal to the loco pilot, but shall endeavour to attract the attention of the LP and the Guard by shouting gesticulating or other means.
- e) 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 then and bringing them together in repeated Up and Dn motion as height and as low as possible.
- f) In case of trains does not stop, gate shall immediately inform the station master, on telephone, to take appropriate action under exchange of private number

(5) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- a) In case of an observation at the level crossing gates,. Gateman shall maintain the gate signals, if any in the 'ON' position.
- b) Thereafter, if he is unable to remove the observation, gateman shall immediately advice the station master on duty, on telephone, regarding the defects/observations at the gate, under exchange of private number.
- c) If there is no response from the station master after two or three attempts, he shall first protect the gate and then inform on phone.

The gateman shall protect the line as under:

(A) ON DOUBLE LINE SECTION:

- i. In the both lines are obstructed The Gateman shall plant a rd banner flag by day and the red light by night 5 meters away on posts duty provided for the purpose. He shall first protect the line on which a train is executive to arrive first.
- ii. Then he will similarly plant the other red banner flag by day and the red light by night 5 meters away from the site of observation.
- iii. Gateman shall then proceed to protect the gate along with detonators, fuses and red flags by day and red hand signal lamp by night.
- iv. Gateman shall proceed in haste exhibiting red flags by day and red light by night on the line on which a train is excepted to arrive first, to a point 600 Mtrs and place one detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line shall return to the level crossing gate picking up the intermediate detonator on this way back.
- v. Thereafter he shall proceed on the other line, showing red hand signal, similarly place the detonators as described in Para (4) about and return to the site of obstruction, picking up the intermediate detonator on this way back.
- vi. Having returned to the gate, he must then take steps to remove the obstruction mobilizing any assistance locally available 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 the distance as far away as he can go.

(B) Other action to be taken by Gateman:

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

(6) ENGINEERING ITEMS:

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

(7) Failure of Telephonic Communication:.

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

- i. Station Master on duty shall send written advice to the gateman through the porter with full details of number, description and direction of the train.
- ii. Gateman on receipt of such advice shall close the gate and transmit the key to the Station Master which will enable them to take 'OFF' reception / departure signals.
- iii. When sufficient time is not available because of greater frequency of train service Station Master will issue written authority to the train Loco Pilot to pass the signal at 'ON' position.
- iv. In addition Station Master shall also issue a caution order advising the Loco Pilot to whistle continuously and approach the gate cautiously.
- v. The train Loco Pilot shall be instructed to pass the gate cautiously, on being hand signalled by the gateman. If hand signal is not seen, Loco Pilot should be prepared to stop short of the gate and ensure that gate is closed following GR 3.73(2)(b).
- vi. In case of an approaching train, the Station Master shall advise the Station Master at the despatching end, under exchange of Private Number that the telephone at the gate has failed.
- vii. The Station Master at the despatching end shall then issue a caution order to the LP before despatching a train in the block section from his end.
- viii. He should also advise S&T staff responsible for maintenance of the telephone to rectify the defect at the earliest.
- ix. Normal working will be resumed only after S&T staff rectify the telephone and issue reconnection / fit memo for the same.

(8) Failure of Lifting Barriers :

- i. When the gate cannot be closed due to failure of Electrical operation of lifting barriers, gate man will immediately inform the SM on duty under exchange of private number and ensure the lifting barriers do not foul the track.
- ii. He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- iii. Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- iv. After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light by night to the Loco Pilot of the approaching train.
- v. He shall also advise the Station Master at the despatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before despatching a train the block section from his end.
- vi. Station Master will advise maintenance staff responsible for maintenance of lifting barriers to repair the defect at the earliest.
- vii. Normal working will resumed only after maintenance staff repair the barrier and issue reconnection / fit memo for the same.

Note:

- a) In case of failure of lifting barriers sliding boom barrier to be used.
- b) Authority to pass signals at 'ON' position as per rules shall also be issued to the Loco Pilot of both departing and arriving trains.

(9) Failure of the Gate Key with the gate in closed position when Gate Key cannot be extracted for opening the gate:

- i. If the gate key cannot be extracted from EKT-1 on gate panel in closed position of the gate, the gate man must immediately inform SM on duty over 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.
- iii. The record of the date and time of breaking the sealed cover of Emergency Key Box shall be recorded and signed with reasons.
- iv. Thereafter, the gate must be treated as non-interlocked and procedure for reception / despatch of trains as prescribed for non-interlocked gates, should be adopted.
- v. Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
- vi. He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- vii. Station master will advise S&T staff responsible for electrical key transmitter to rectify the defect at the earliest.
- viii. Normal working will be resumed only after S&T staff repairs the electrical key transmitter and reconnection/fit memo for the same.

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

(10) Failure of the Gate Key, with the gate in open condition:

- i. If the gate key cannot be extracted from EKT-2 on gate panel in open position of the gate, the gate man must immediately inform SM on duty over exchange of private number.
- ii. Thereafter, the gate must be treated as non-interlocked and procedure for reception / dispatch of trains as prescribed for non-interlocked gates should be adopted.
- iii. Gateman shall secure the gate against road traffic by means of chains and padlocks and pass the trains on hand signals.
- iv. Station Master on duty shall issue caution order to the Loco Pilot of a departing train.
- v. He shall also advise the Station Master at the dispatching end under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- vi. Station master will advice S&T staff responsible for electrical key transmitter to rectify the defect at the earliest.
- vii. Normal working will be resumed only after S&T staff repairs the electrical key transmitter and reconnection/fit memo for the same.
- viii. After rectification, the Emergency Key shall be replaced in the Emergency Key Box and released by the S&T maintainer.

(11) Obstruction at the Gate:

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

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

(12) [A] Obstruction on the Track near Level Crossing:

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

[B] OTHER ACTION 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 by track, or if lifting barrier or any other part of the gate found 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 road vehicle, vehicle number, name of the driver, owner and relay these details to the nearest Station Master, SSE/P.way regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

(13) 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.

LEVEL CROSSING GATE NO.ML-381 AT KM 689/1-3**1. GENERAL****1.1 DESCRIPTION OF THE LEVEL CROSSING GATE :**

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

Sl.no	Description	Remarks
1.	Number of Level Crossing Gate	ML-381
2.	Engineering or Traffic Gate	Engineering
3.	Under control of Station Master / Permanent Way Inspector.	SSE/P/NWP
4.	Location at KM.	689/1-3
5.	At Station	---
6.	In between stations	PUN-NWP
7.	BG / MG / NG	BG
8.	Single line / Double line / Multiple line	Double Line
9.	Normal Position	Open to Road Traffic.
10.	Interlocked / Non-Interlocked	Interlocked.
11.	Means of Interlocking	i) UP Line: Interlocked with PUN Station signal. ii) DN Line: Interlocked with Gate signal.
12.	Provision of Gate signal at Kms.	i) UP line---- ii) DN line 689.210 mts.
13.	Signalling arrangements	MACLS
14.	Means of Communication – Telephone / Bell etc.	Telephone connection with SM/PUN
15.	Width of level crossing gate	7.5 M.
16.	Type of road (NH / SH / Others)	Others.
17.	Name of Road	Village Road
18.	Metalled / non-metalled	CC Block.
19.	Approach road	WBM Road
20.	Width of the road	5.5 M
21.	Angle of road crossing (in case of the skew gates)	90°
22.	Road gradient (if any)	(i) North/East side: Flatter than 1 in 30. (ii) South/West side: Flatter than 1 in 30.
23.	Road alignment (straight/curve)	i) North /East side: Straight. ii) South /West side: Straight.
24.	Provision of height gauges	Provided
25.	Type of Barriers	Lifting Barrier & Sliding Boom
26.	Length of Check rails	9.5 M
27.	Road surface in between L-Xing gates	Level.

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28.	Length of Rumble strip / speed breakers	5.5M
29.	Road signs	Provided
30.	Speed breaker indication board	Provided
31.	TVU	27044 of OCT/2018.
32.	Census next due on	10/2021.
33.	Demarcation for placement of Detonators	Provided
34.	No. of Gatemen working	2 (Two)
35.	Nearest Railway Medical Assistance	Rly.Health Unit NWP
36.	Nearest Private Medical Assistance available (if any)	Pundi
37.	List of equipment available Yes / No	Yes

1.2 EQUIPMENTS:

Sl.No	Description	Remarks
1	LED based flashing Tri Colour Hand Signal Lamp.	3Nos.
2	Hand Signal Flag Green.	1 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 mark.
7	Detonators	10 in tin case
8	Gate lamps	1 Nos.
9	Tommy Bar	2 Nos.
10	Mortan Pan	1No
11	Spade/Fowarh	1No
12	Rammer	1No
13	Pick Axe	1No
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 gateman wearing glasses.	1No
19	Board demarcation protection of level crossing gate diagram in case of obstruction	1No
20	Bucket	1No
21	Whistle	1No
21	Wall Clock	1 No
23	A small size chain for use in case of failure of Gate Boom.	2 No.

1.3 RECORDS TO BE KEPT AT GATE LODGE:

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

- a. Gate Working Instructions In Hindi/English.
- b. Gate Working Instructions in Local vernacular language.
- c. Gateman Rule Book in Local vernacular language.
- d. List for tools and books.
- e. Duty registers.
- f. Certificate for working as gateman.
- g. Bio-data particulars of Gateman, including date of passing vision test, Initial/refresher course, safety camp etc.
- h. Accident Register.
- i. 9 Records of last census of road traffic at level crossing gate.
- j. 10 Public Complaint Book.
- k. 11 Inspection Book.
- l. 12 S&T Register.

1.4 Mode of Operation :

Gate shall normally be kept open to road traffic, whenever it is required to close the gate Station Master on duty shall inform the Gateman about the direction and description of the train intended to receive/dispatch shall insure clearance of road traffic, close and lock the gate. Thereafter transmit the control to the Station Master on duty as per the following procedure:

- i. After the gate is closed and locked against road traffic than key 'C' can be extracted from EKT-1.
- ii. Key 'C' thus extracted is inserted in EKT-2 and turned 'Key -IN' contact of EKT-2 along with switch 'GS-1' reversed will extend slot to UP Adv.Starter-13 of PUN & for Str.No.7,9,11 of PUN.
- iii. Key-'C' contact of EKT-2 along with switch 'GSZ' reversed will clear DN Gate stop signal GS2.
- iv. Dead approach locking of 60 second with back locking is provided on Key 'C' when in EKT-2.
- v. In case of emergency key 'N' (chainage with crank handle) is extracted from EKT-3 electromechanically free provided at gate lodge (in a locked and sealed red box glass cover) for manual operation of individual lifting barrier by crank handling.
- vi. Extraction of key 'N' shall put back to all the relevant signal at 'ON'.

1.5 DUTIES OF GATEMEN:**[1] 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 nighttime, 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 sunshine.
- 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 instruments, 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 LP on walkie-talkie or in any other way.
- vi. If lifting barriers get damages or becomes out of order, the gateman shall use the spear 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 even by disconnecting the signal or the wire if necessary.
- 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 LP 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 supplies at the gate are in good order and ready for immediate use.
- xiii. Gateman shall ensure that equipment supplies at the gate are in good order and ready for immediate use.
- xiv. Gateman shall see that the channel for the flange of the wheel is kept clean.
- xv. Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- xvi. Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- xvii. Gateman shall watch that road vehicles/animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- xviii. Gateman shall prevent 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 LP/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 LP/guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
- iii. If LP/guard fails to take notice, gateman shall not stop immediately inform the station master 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 LP/guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting then and bringing them together in repeated Up and Dn motion as height and as low as possible.
- vi. In case of trains does not stop, gate shall immediately inform the station master to take appropriate action under exchange of private number.

(5) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- i. In case of an observation 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 observation, gateman shall immediately advice the station master on duty, if connected on telephone, regarding the defects/observations at the gate, under exchange of private number.
- iii. If there is no response from the station master after two or three attempts, he shall first protect the gate and then inform on phone.

The gateman shall protect the line as under:

[A] ON DOUBLE LINE SECTION:

- i. In the both lines are obstructed the Gateman shall plant a red banner flag by day and the red light by night 5 meters away on posts duty provided for the purpose. He shall first protect the line on which a train is executive to arrive first.
- ii. Then he will similarly plant the other red banner flag by day and the red light by night 5 meters away from the site of observation.
- iii. Gateman shall then proceed to protect the gate along with detonators, fuses and red flags by day and red hand signal lamp by night.
- iv. Gateman shall proceed exhibiting red flags by day and red light by night on the line on which a train is excepted to arrive first, to a point 600 Mtrs on BG and place on e detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs on BG from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line shall return to the level crossing gate picking up the intermediate detonator on this way back.
- v. Thereafter he shall proceed on the other line, showing red hand signal, similarly place the detonators as described in Para (4) about and return to the site of obstruction, picking up the intermediate detonator on this way back.
- vi. Having returned to the gate, he must then take steps to remove the obstruction and warn the driver 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 the distance as far away as he can go.
- viii. In the both lines are obstructed the Gateman shall plant a red banner flag by day and the red light by night 5 meters away on posts duty provided for the purpose. He shall first protect the line on which a train is executive to arrive first.
- ix. Then he will similarly plant the other red banner flag by day and the red light by night 5 meters away from the site of observation.
- x. Gateman shall then proceed to protect the gate along with detonators, fuses and red flags by day and red hand signal lamp by night.
- xi. Gateman shall proceed exhibiting red flags by day and red light by night on the line on which a train is excepted to arrive first, to a point 600 Mtrs on BG and place on e detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs on BG from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line shall return to the level crossing gate picking up the intermediate detonator on this way back.
- xii. Thereafter he shall proceed on the other line, showing red hand signal, similarly place the detonators as described in Para (4) about and return to the site of obstruction, picking up the intermediate detonator on this way back.

- xiii. Having returned to the gate, he must then take steps to remove the obstruction and warn the driver of the approaching train.
- xiv. 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 the distance as far away as he can go.

[B] OTHER ACTION 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 by track, or if lifting barrier by leaf gates or any other part of the gate found the track, or if there is any other obstruction at the gate, the gate man shall take immediate action.
- iii. He shall note down, owner and relay these details to the nearest Station 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.

(7) 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, SM shall issue a caution order to the driver of the departing train.
- ii. SM shall advise the LP 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 SM shall advise the SM at the dispatching end, under exchange of private number, that the telephone at the gate has failed.
- v. The SM at the dispatching end shall then issue a caution order to the driver before dispatching a train in the block section from his end.
- vi. SM will also advise the gateman through Gang man/Patrolman /LP of the first train that the telephone has become defective.
- vii. SM 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.

(8) WORKING OF SLIDING BOOM BARRIER IN CASE OF FAILURE OF LIFTING BARRIERS:

- i. KEY'S' when extracted from lock free EKT-5, makes road signal danger & activates road hooter Key-S un-locks the sliding barrier-1.

- ii. Sliding barrier-1 to be rolled across the road up to lock post key (chained with barrier) locks the barrier against the road and releases the lock plunger & key SB 1, Key SB 1 when extracted lock the sliding barrier-1.
- iii. Similarly the padlock sliding barrier-2 after un –lock. The Padlock to be rolled across the road up to lock post key (chained with sliding barrier) along with Key SB-1 inserted releases the lock plunger and key SB-2 when extracted lock the sliding barrier-2 & key SB-1.
- iv. Finally released key SB-2, from sliding barrier-2 to be inserted in EKT-4 for taking off signals.

(9) 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 or key transmitter than gate man must immediately inform the SM on duty on telephone, under exchange of private number.
- ii. If Emergency Key is available at the gate lodge, gateman will take it out from the sealed box by braking the seal and open the gate for road traffic.
- iii. The record of the date and time of breaking the sealed cover of emergency key box shall be recorded and signed with reasons.
- iv. Thereafter, the gate must be treated as non-interlocked and produced for reception / Dispatch of trains as prescribed for non-inter locked gates, should be adopted.
- v. SM on duty shall issue caution order to the driver 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 the driver before dispatching a train in block section for his end.
- vii. SM 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-communication / fit memo for the same.
- ix. After rectification, the Emergency key shall be replaced in the emergency key box and re sealed by the S&T maintainer.

(10) Failure of the Gate Key with the gate in open condition:

- i. The gate key cannot be extracted from the which, gate signal level or key transmitter then gateman must immediately inform the SM on duty on telephone, under exchange of private number.
- ii. Thereafter, the gate must be treated as non-interlocked and procedure for reception /dispatch of train as prescribed for non-interlocked gates, should be adopted.
- iii. The gateman shall secures the gate against road traffic by means of chains and padlocks and pass trains on hand signals.
- iv. SM on duty shall issue a caution order to LP of a departing train.
- v. He shall also advise the SM at the dispatching end, under exchange of pre-cut number, to issues a caution order to the driver before dispatching a train in the block section from his end.
- vi. SM shall advise S&T staff responsible for maintaining the key transmitter to repair the same at the earliest.
- vii. After rectification the, Emergency Key Box and resealed by the S&T maintainer.

(11) Defective Gate Signals:

- i. The gate man shall treat the gate signal as defective and must not lower them under following circumstances:
- ii. If gate signal can be taken 'OFF' without closing the gate, or
- iii. The key can be extracted from the operating winch when the gate is in open condition, or
- iv. The key can be extracted from the leaf gates when the gate is in open condition.
- v. If the gate or the gate signal /distant signal becomes defective in 'OFF' position, the gateman will make all efforts to put it at 'ON' position.
- vi. The gate man will immediately advise the SM on duty, under exchange of private number regarding defective gate signals.
- vii. Thereafter, the gate must be treated as non-interlocked and procedure for reception /dispatch as prescribed for non-interlocked gates should be adopted.
- viii. He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- ix. SM on duty will issued a caution order to the driver of a departing train. He shall also advise the station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the LP before dispatching a train in the block section from his end.
- x. SM shall advise S&T staff responsible for maintaining the gate signal to repair the same at the earliest.
- xi. Normal working will be resumed only after S&T staff rectifies the defective gate signal and issue reconnection /fit memo for the same.

(12) 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 order 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 SM on duty regarding the defects /obstruction at the gate, under exchange of private number.
- iv. If there is no response from the SM after two or three attempts, he shall first protect the gate and then inform the 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 driver, owner and relay these details to the SM 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 SM shall also inform the SM 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 obstruction the gateman shall inform to the SM accordingly, under exchange of private number.
- x. SM shall then issue a caution order to LP 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 the means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstruction.
- xii. SM shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
- xiii. Normally working will be resumed only after maintenance staff rectifies the defective lifting barriers and issue reconnection /fit memo for the same.

(13) 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.

APPENDIX 'B'**DETAIL DESCRIPTION OF SIGNALLING AND INTERLOCKING INSTALLATIONS, INSTRUCTIONS FOR WORKING THEM NORMALLY AND IN EMERGENCIES ETC. INCLUDING POWER SUPPLY ARRANGEMENTS.****1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:**

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

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

The Operator Console cum Visual Display Unit (VDU) is provided for operation of Signals, Points, L.C Gates, Crank Handles, Siding & other controls etc. A Mimic yard diagram based on SI plan no. SI/23002 ALT.'Q' will be displayed on the VDU. The VDU is used for controlling and monitoring the station. Indications on the Station yard mimic diagram of VDU will be dynamically updated.

2.1 SYSTEM OVERVIEW:

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

2.2 An additional VDU connected with a computer is provided as stand by arrangement in case of failure of the working operator console. In case of failure of the working operator console the system shall switch over to the stand by VDU automatically.

2.3 ICONS AND INDICATIONS PROVIDED ON THE VDU

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

SL. NO	ICONS	INDICATIONS	FUNCTIONS	REMARKS
1	SM's Key	Yellow light when key is 'IN'	Ensures operation of VDU by authorized person	Protected by pass word

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2.	---	Emergency Route release - UP & DN	Flashing indication appears when Emergency route release operation is initiated.	For each operation concerned counter shall register one count higher.
3.	---	Emergency Gate release	Flashing indication appears when Emergency gate release operation is initiated.	
4.	Emergency Point operation key	Yellow light when key is 'IN'	Ensures emergency point operation by authorized person	
5.	---	System indication Central – On/Off	Indicates System 'A' or 'B' is in working mode	---
6.	---	System indication End – On/Off		
7.	Point failure Ack. button	Yellow	Flashing indication appears when any point fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. After verification at site inform S&T staff Immediately.
8.	Signal failure Ack. button	Yellow	Flashing indication appears when any signal fails. SM has to left click on the icon to acknowledge.	Buzzer will sound. On acknowledgement buzzer stops. Inform S&T staff Immediately.
9.	---	Main Filament Failure Indication	Flashing indication appears when Main filament of any signal fails.	
10.	CH-1, CH-2, CH-3 and CH-4 buttons	Yellow lamp indicates 'KEY IN'. Red lamp indicates 'CH LOCKED'	In normal condition yellow lamp will be lit. Whenever the crank handle is locked in route or otherwise red indication will glow.	---
11.	DN Reset key and button (NWP end)	Yellow-Power on Green-prep reset	SM has to follow 'Key In' procedure followed by left click on the button icon to reset LVCD Axle counter.	This operation is required for Resetting of LVCD Axle Counter of Concerned

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12.	UP Reset key and button (NWP end)	Yellow-Power on Green-prep reset		Section. For each operation concerned counter shall register one count higher.
13.	DN Reset key and button (PSA end)	Yellow-Power on Green-prep reset		
14.	UP Reset key and button (PSA end)	Yellow-Power on Green-prep reset		
15.	DN IB Axle counter Reset key and button (PSA end)	Yellow - Power on Green-prep reset	SM has to follow 'Key In' procedure followed by left click on the button icon to reset IB Axle counter.	Permission is granted by PSA. For each operation concerned counter shall register one count higher.
16.	'Permission received from PSA' Acknowledgement button	Yellow - Permission Received	To acknowledge SM has to left click on the Acknowledgement button	
17.	'Permission granted to PSA' button	Yellow - Permission granted	To grant permission for resetting SM has to left click on the permission granting button	
18	DN IB Axle counter Reset key and button (PSA end)	Yellow - Power on Green-prep reset	SM has to follow 'Key In' procedure followed by left click on the button icon to reset IB Axle counter.	Permission is granted by PSA. For each operation concerned counter shall register one count higher.
19	'Permission received from PSA' Acknowledgement	Yellow - Permission Received	To acknowledge SM has to left click on the Acknowledgement button	

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	button			
20	'Permission granted to PSA' button	Yellow Permission granted	-	To grant permission for resetting SM has to left click on the permission granting button
21	'DN Train Run away' in IB section muting button	Yellow acknowledged	-	On getting alarm/buzzer SM shall left click on the button icon to acknowledge the incident.
22	'UP Train Run away' in IB section muting button	Yellow acknowledged	-	On getting alarm/buzzer SM shall left click on the button icon to acknowledge the incident.
23	'DN Train Entering Section' muting button	Yellow acknowledged	-	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.
24	'UP Train Entering Section' muting button	Yellow acknowledged	-	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.
25	UP Block release button	Yellow –Prepared for Block release.		On getting indication SM shall left click on the button icon which shall release Block Handle.
26	DN Block release button	Yellow –Prepared for Block release.		
27	L-1 Axle Counter Reset button	Yellow – L1 Verified clear of trains.		On getting verification indication SM shall left click on the button icon to reset Axle Counter on L-1.

Buzzer will sound.
On acknowledgement buzzer stops.
Inform S&T staff Immediately.

After complete arrival of train this will be activated

For each operation concerned counter shall register one count higher.

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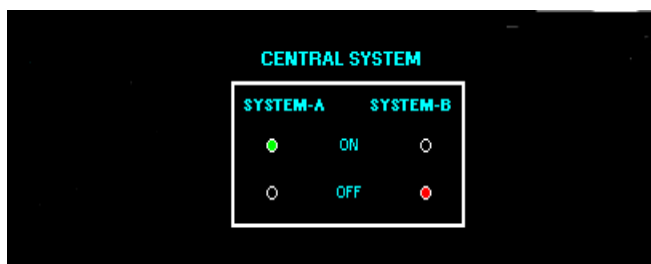
28	L-4 Axle Counter Reset button	Yellow – L1 Verified clear of trains.	On getting verification indication SM shall left click on the button icon to reset Axle Counter on L-1.	For each operation concerned counter shall register one count higher.
29	L.C.Gate control-31 button	Yellow lamp indicates 'Gate Closed'. Red lamp indicates 'Gate LOCKED'.	SM shall right click on the button icon to select menu to Transmit / Receive/ emergency operation of gate as required.	In case of emergency operation 'Emergency gate release' indication will appear.
30	Counter	-	As and when required SM shall point the curser on the counter icon and right click on it. A drop down menu will appear indicating all the counters available in the system. SM shall select the required counter on the menu and can read the latest counter reading.	-
31	Line Block button	Red when blocked	SM shall point the curser on the icons provided on the berthing track and right click . One drop menu will appear indicating line blocked and un-blocked, SM has to select the required menu.	When line block is selected the concerned berthing portion of track will appear as thick Red line.

3.0 OPERATIONAL PROCEDURE THROUGH VDU AND INDICATIONS:

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

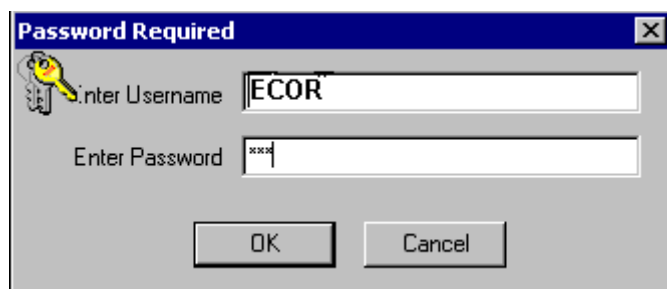
3.1 ELECTRONIC INTERLOCKING (E.I) SYSTEM INDICATIONS:

Electronic Interlocking Equipment (E.I) at the center and at both goomties can work in either of the two modes i.e, System-'A' or System-'B'. On the VDU (Computer), there are two system indications in which Green indication mentioning the On-line system and the Red indication mentioning that the system is in power off condition.



3.2 OPERATION PROCEDURE OF SM KEY :

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



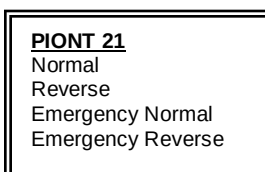
Enter the USER NAME and PASSWORD and click the OK button.

Now the OP VDU is ready for use & the entire yard can be controlled from the VDU.

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

3.3 OPERATION AND INDICATION OF POINT:

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



3.3.1 REVERSE TO NORMAL OPERATION:

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

3.3.2 NORMAL TO REVERSE OPERATION:

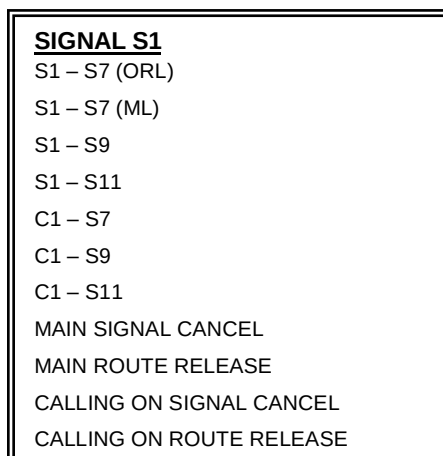
Track the pointer to REVERSE menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to Reverse.

3.3.3 POINT INDICATIONS

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

3.4 PROCEDURE FOR SETTING OF ROUTES AND TAKING OFF SIGNALS:

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



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

3.4.1 SETTING A ROUTE AND ITS INDICATIONS:

To set a route of a signal, click on a possible route of the signal, after doing so the route gets initiated & Red-flashing indication will appear on the replacement track of the signal. Point operation is initiated as per the requirement of the desired route and Normal/ Reverse set indications will starts flashing if favorable point detection is not available. After setting of points in the route, overlap & isolation flashing indication will be replaced by steady indication and a complete yellow 'Route set' indication will

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appear from the replacement track of the signal to the last track of overlap section of the route. Also the points lock indication will appear. A Point locked can be ensured from the Red Steady indication will appear near the point. Finally a Route locked Yellow Steady indication will appear on the immediate rear of the signal. Now the signal will be Taken-off. The yellow route set indication will turn to red when different track circuit portion within the route is occupied during passage of a train.

3.4.2 SHUNT SIGNAL OPERATION:

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

3.4.3 CALLING ON SIGNAL OPERATION:

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

3.5 CRANK HANDLE CONTROL OPERATION:

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



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



To Transmit the Crank Handle KEY to the field personnel SM on duty has to click transmit control menu. After transmission the 'KEY IN' indication will start flashing, now the KEY can be extracted from the RKT at site. After extracting the key from the RKT, the 'KEY IN' indication will disappear. When the Manual point operation is over,

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after putting the Siding control key in the RKT, 'KEY IN' flashing indication will appear on the VDU, Now the SM on duty has to Release the control for the Steady indication by clicking release control menu.

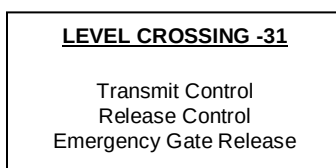
A Crank handle locked indication (Red) will appear when the particular point is on the signal route set over it or engaged in route setting in any other way.

3.6 LEVEL CROSSING GATE OPERATION:

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



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



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

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

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

3.8 OVERLAP TIME RELEASE (WHITE LIGHT):

Separate indications (White Light) for each overlap is provided near the starter signal to indicate the free or locked condition of overlap. This indication light will glow when overlap is locked by any Home Signal route and there will be no light when overlap is free. The locked indication starts flashing when the approaching train clears the rear

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end point zone track and occupies the berthing track. After a time release of 120 seconds the white flashing light will disappear indicating concerned overlap is free.

4.0 EMERGENCY OPERATIONS:

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

4.1 CANCELING A ROUTE/ EMERGENCY ROUTE RELEASE:

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

4.2 EMERGENCY OPERATION OF POINTS:

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

Note:

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

4.2.1 NORMAL OPERATION

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

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

4.2.2 EMERGENCY REVERSE OPERATION OF POINTS:

Before doing the emergency operation an Emergency Point Operation Key is to be made 'KEY IN' by clicking the 'KEY IN' menu. The user name and password is to be logged in. The user name of this station is 'ECOR' and password of this station is PUN. Emergency reverse menu to be clicked. Track the pointer to 'EMERGENCY REVERSE' menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to Reverse.

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

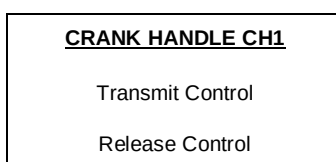
After the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu. The user name and password is to be given for 'KEY OUT' also.

4.2.3 EMERGENCY CRANK HANDLE RELEASE OPERATION :

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



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



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

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

4.3 EMERGENCY GATE OPERATION:

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

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

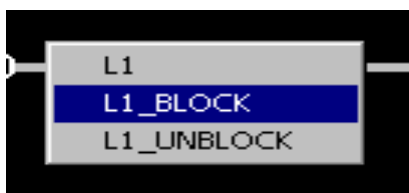
The counter will increment the number for each and every such action and also, this number should be recorded by the SM on duty who shall record the details of the Emergency Gate Operation along with the latest counter no. in a register.

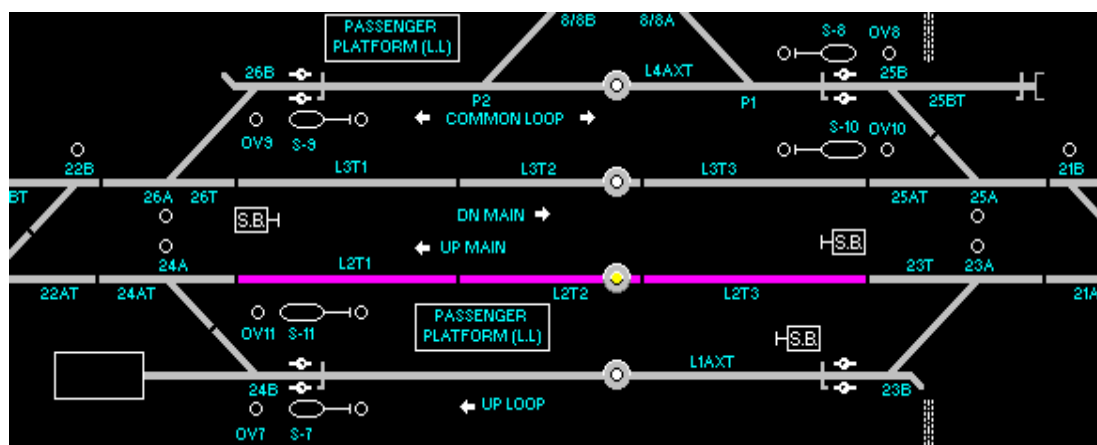
4.4 LINE BLOCK AND UNBLOCK (REMINDER COLLAR):

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

4.4.1 LINE BLOCK:

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





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

5.1 Digital Axle Counters are provided on both Up & Down Block sections between PUN-NWP and PUN-PSA. The occupation and clearance of the axle counter section are indicated on VDU by RED & GREEN light respectively.

When after arrival of a train the LVCD Axle counter does not show clear indication and the 'Section Occupied' indication continues to glow SM on duty shall initiate resetting procedure for the LVCD Axle Counter, monitoring the Block section. Before initiating Resetting procedure SM on duty shall ensure that the train which has left arrived completely at receiving station and block section is clear [free] of trains. If the track indication of that particular block section is showing 'Red' then the following actions is to be performed by the SM on duty.

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

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



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



Move the Curser pointer near to the Axle Counter Reset push button icon, and click left button of the mouse and select “**Reset**”. In VDU ‘**Power on**’ indication will appear above the reset push button and it will remain for 10 sec. This action will be recorded in a counter. The counter will increment the number for each and every such action and also, this number should be recorded by the SM manually in a register.



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



The Piloting In or out is mandatory for completion of Axle counter reset operation. Number changed for resetting, shall be recorded in the TSR and in the register provided for this purpose.

5.2 **RESETTING OPERATION FOR ANALOG AXLE COUNTER IN I.B. SECTION:**

Analog Axle counters are provided in IBH section between (PSA-PUN). The occupation and clearance of the I.B. Axle counter section are indicated on the VDU by RED & GREEN Indications. When after arrival of the train, the axle counter does not show clear indication and the section occupation continued to glow, SM on duty shall initiate re-setting procedure for the I.B. Axle counter monitoring the I.B. Section before initiating resetting procedure, SM on duty shall ensure that the train which has left arrived completely at receiving station and I.B. section is clear [free] trains. If the track indication of that particular I.B. section is showing ‘Red’ then the following actions are

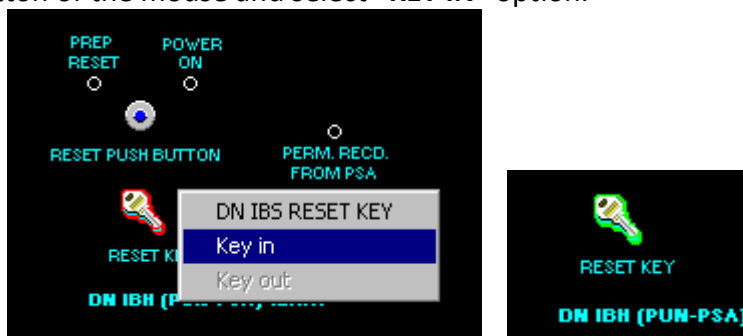
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to be performed by the SM on duty at Pundi. Resetting of Analog Axle Counter shall be carried out at Dispatch end, but before that permission shall be obtained from the receiving station.

After getting the permission from receiving station “**Perm. Recd from PSA**” indication will appear above the Ack button icon



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



After performing ‘Key in operation’ SM on duty move the Cursor pointer near to the Axle Counter Reset push button icon, and click left button of the mouse and select “**Reset**”. In VDU Panel. Concerned VDU counter will change to the next higher number. After completion of reset operation first train shall be piloted out. On clearing of the piloted train over I.B.S. Axle counter zone, axle counter will get reset and Axle counter zone clear indication will appear on VDU.



The Piloting out is mandatory for completion of I.B. Axle counter reset operation.

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

5.3.1 RESETTING OPERATION FOR LOOP LINE AXLE COUNTER ON LINE NO 1 & 4:

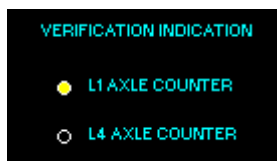
Analog Axle counter are provided to prove clearance/occupancy of berthing portion line No:1 and line No:4. The occupation/clearance of the axle counter section are indicated on the VDU by RED & GREEN indications respectively.

- 5.3.2 When after clearing of a train or due to any failure, if the berthing zone axle counters of L1 or L4 does not show clear indication and section occupied indication continue to glow

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5.3.3 on VDU, SM on duty shall initiate resetting procedure.

Before initiating resetting on duty SM at PUNDI Station shall send an operating staff who in turn, verifies that the concern loop line is clear of all obstruction and open the respective verification line verification box and press the verification button provided in the line verification box near SMs office.



On obtaining verification indication which is indicated by glow of light on the VDU below the verification indication, SM shall click the respective option for resetting the concerned axle counter and the same will be reset by this operation and concerned VDU counter will change to the next higher number.

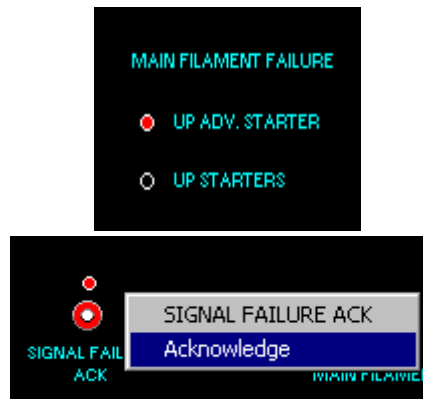


Number thus changed due to resetting shall be recorded in the TSR and in the reset register provided for this purpose.

6.0 **MAIN SIGNAL LAMP FAILURE INDICATION AND BUZZER ACKNOWLEDGMENT:**

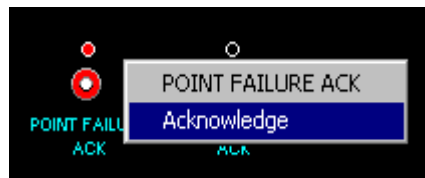
Double filament signal lamps have been used for main signals at this station. In case main filament fuses auxiliary filament will automatically lit up with same intensity. However failure of main filament will be indicated by the appearance of 'RED' light on VDU along with audible buzzer, which can be acknowledged and muted by pressing the 'SIGNAL FAILURE ACKNOWLEDGEMENT' button icon. However the RED light will continue to glow until the lamp is replaced by a new lamp. For rectification of failure SM on duty should inform the concerned S&T staff about the group which has failed. For the purpose of giving main filament failure indication the following groups are formed on either side.

- Up distant.
- Up Home & Down Advanced starter.
- Down starters.
- Up Starters.
- Down Home & Up Advanced starter.
- Down distant.



6.1 POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND POINT FAILURE ACKNOWLEDGEMENT:

Whenever there is failure of point due to non-setting, point failure indication flashing light appears near the point button icon along with point failure Buzzer. The buzzer stops when the point failure acknowledgement button icon is 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 'POINT FAILURE ACK' button will disappear.



6.2 TRAIN RUN AWAY INDICATION AND BUZZER ACKNOWLEDGEMENT:

- The Train Run away buzzer is provided for to ensure of passing a train Through IBH Signal at 'ON'.
- When the Train hits the IBH track circuit, the audible Buzzer will ring as well as red indication will appear in VDU above the Runaway Muting Button. The buzzer can be silenced by pressing of acknowledgement button icon.



6.3 SHOWING OF COUNTERS:

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

1. Emergency Route Release.
2. Emergency Point Operation.
3. Emergency Crank handle release.
4. Emergency Gate release.

Station Working Rules of **PUNDI** station

5. Axle counter resetting for line No: 1.
6. Axle counter resetting for line No:4.
7. I.B. Axle counter resetting for section PUN-NWP & PUN-PSA.
8. LVCD axle counter resetting for section PUN-NWP.
9. LVCD axle counter resetting for section PUN-PSA.

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

7.0 TRACK CIRCUITS:

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

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

8.0 AXLE COUNTER:

- (i) Analog Axle Counters are provided on berthing portion for Down Loop and Common Loop line in the yard for counting Axles 'IN' and counting axles 'OUT' which indicate whether the concerned point zone / berthing track monitored by axle counters is clear or occupied.
- (ii) Analogue Axle Counters are also provided in the IB section between PUN – PSA stations for monitoring clearance / occupancy of the IB section.

SECTION PUN-PSA

A pair of Analogue Axle Counters is provided between PUN – PSA on DN line one just beyond DN Advance Starter of PUNDI and 400 Mtr. beyond DN IB Home signal between PUN – PSA.

SECTION PSA - PUN

A pair of Analogue Axle Counters is provided between PUN – PSA on UP line one just beyond UP Advance Starter of PSA station and 400 Mtr. beyond UP IB Home signal between PSA - PUN

- (iii) Entire Block Section between PUN - NWP and PUN – PSA are provided with Digital Axle Counters along with IB Axle counter of PUN-NWP.

SECTION PUN - NWP:

A pair of Digital axle counter is provided between PUN - NWP on UP line one just beyond Up advanced starter PUN and another in 15T2 track circuit beyond the UP IB Home signal of PUN. Similarly a pair of Digital axle counter is provided between NWP - PUN on DN line one just beyond Down Advanced starter of NWP and another in 2 T2 track circuit beyond Dn IB Home signal of NWP.

SECTION PUN - PSA:

A pair of Digital axle counter is provided between PSA - PUN on UP line one just beyond UP IB Home Signal no. 49 of PSA and another in 1T2 track circuit beyond the UP Home Signal at PUN. Similarly a pair of Digital axle counter is provided between PUN - PSA on DN line one just beyond Down IB Home Signal no 16 of PUN and another in .22T track circuit beyond Dn Home signal of PSA.

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

After complete arrival of the train the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of a train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR.14.13 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 for section PUN – NWP and IB Home Signals shall not assume 'OFF' aspect and the concerned Block Instruments shall remain locked in last operated position for section PUN – PSA.

A resetting arrangement for resumption of the system, in case of failure of Axle Counter, has been provided in the SS/DY. SS office of the adjacent Block stations. After being assured by both the SS/DY. SS that the last vehicle has arrived completely at the receiving station, the resetting procedure shall be initiated after exchanging Private Number vide G&SR 4.17, 4.17.01.

(Details of resetting procedure given in APPENDIX-'B' under para 5.1 of this SWR)

Station Working Rules of **PUNDI** station

NOTE:

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

9.0 TAKING OFF CALLING-ON SIGNAL:

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

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

NOTE: SM on duty to ensure that no through signals are given while receiving a train on Calling-on.

9.2 RELEASE/CANCELLATION OF ROUTE:

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

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

9.3 REPLACEMENT OF SIGNALS TO 'ON':

Signals are replaced to 'ON' automatically by the passage of a train beyond the signal. It will not be possible to re-clear the signal again unless the due process for clearing the signal is repeated again. For replacement of any signal to 'ON' position manually, the SM shall follow para no. 3.4 of APPENDIX-B.

9.4 INTERLOCKING OF SIGNALS:

UP IB Home Signal is interlocked with DLBI of section PUN – NWP and DN IB Home is interlocked with DLBI of section PUN – PSA in Line Clear position.

The Block Instrument cannot be made normal unless the respective Home signal is put back to 'ON' and the respective Block Section monitored by Axle Counter is clear of trains. Signals once taken 'OFF' can be put back to danger in case of emergency by following para no. 3.4 of APPENDIX-B even when the SM's Key is withdrawn from VDU.

UP & DN Advance Starter signal are interlocked with the clearance of IB section i.e., clearance of section up to 400 Mtrs. beyond UP & DN IB Home which is controlled by IB zone Axle Counter.

9.5 PILOTING OF TRAINS IN TO STATION YARD.

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

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

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

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

NOTE:

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

9.6 PILOTING OF TRAINS - OUT OF STATION YARD:

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

Station Working Rules of **PUNDI** station

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

9.7 SHUNTING:

Caution aspect of starter signals for shunting up to Advance Starter.

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

10. VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAIN INTO STATION YARD:

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

11. CRANK HANDLING/EMERGENCY OPERATION OF POINTS:

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

12. OBSERVATION OF TRACK CIRCUIT AFTER STABLING OF TRAINS ON RUNNING LINES:

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

13. LOCKING OF RELAY ROOM:

The Relay Room at the station is provided with double locks (two independent locks) as necessary vide Optg. Manual 13.16. One key shall be kept with the signal maintainer of the station and the other key shall be with SM on duty. The Relay room cannot be opened unless both keys are used.

SM on duty shall ensure that the Relay room key is given to S&T maintenance staff under clear signature as and when required for normal maintenance and for special works and that the key should be returned by the S&T staff immediately after completion of the work and documentation shall be made in the Relay Room key register maintained at the station according to SR 3.51.05 and OM 13.16.

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

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

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

15. PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF AN INTERLOCKING GEAR:

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

16. INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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

17. RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

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

18. PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:

Whenever any normal maintenance or special works for major renewals etc., are involved, the Signal and Telecom department should preplan these works. Field staff

Station Working Rules of **PUNDI** station

and the Inspector of the section should give to the Station master in writing 'Advance Intimation' about this work in terms of G and SR.15.08.01.

19. EMERGENCIES:

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

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

- 20.1 Whenever a Signal or a Point become defective any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at the Station.
- 20.2 In case of failure of Signal or a Point and in case the Point cannot be operated from the VDU, the emergency Crank Handle which is Interlocked with the system has to be extracted and the following procedure has to be observed.
- 20.3 When the Crank Handle is removed from HKT for operation of the defective Motor Operated Points, the responsibility for its safe custody re-sets with the SM on duty till it is replaced back in HKT and sealed by Signal Maintainer.
- 20.4 The case of failure of Motor Operated Points should be promptly reported to the concerned Signal Inspector/ESM for immediate rectification.
- 20.5 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 Points will be treated as defective till the Emergency Crank Handle is returned back to Station Master on duty.
- 20.6 Before parting with the Emergency Crank Handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the

Station Working Rules of **PUNDI** station

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.

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

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

21.0 INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

21.1 INTERLOCKING WITH HOME SIGNALS:

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

21.2 The IB HOME Signal is Electrically interlocked with DLBI of section PUN-NWP so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in 'LINE CLEAR' position.

21.3 The Down advanced starter signal is controlled and interlocked with I.B. Axle counter section between PUN-NWP & Down I.B. Home signal is interlocked with DLBI of section PUNDI-PALASA so that this Signal cannot be taken OFF until the Handle of the concerned Block Instrument is in 'LINE CLEAR' position.

22.0 SUSPENSION OF LAST STOP SIGNALS & I.B. HOME SIGNAL:

When the Double line block instrument for section PUN-PSA or PUN-NWP is suspended with its handle in any position for whatever reason the concerned I.B. Home Signals controlled by the DLBI must be treated as suspended and trains shall be Piloted Out.

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

23.1 Digital Axle Counters are provided on both Up and Down line Block Sections between PUNDI-PALASA and PUNDI-NAUPADA.

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

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

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

24.0 ANALOG AXLE COUNTER and DESCRIPTION OF RESETTING EQUIPMENT (WITH STATION YARD):

Common Loop(Line No.4), Down Loop(Line No.1) are provided with analog axle counters and is grouped as L1AXT, L4AXT.

Whenever a particular Axle counter zone is occupied or failed, a visual 'RED' indication appears on the VDU at station and when verified for clearance and initiated for resetting, an 'YELLOW' indication appears in the VDU and when once the resetting is completed, then appears 'GREEN' indication and the 'YELLOW' indication extinguishes.

25.0 TELECOMMUNICATIONS:

Same as para No.5 to the general portion of the SWR.

26.0 POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS

Same as para 4.3 of general portion of SWR.

27.0 WORKING OF INTEGRATED POWER SUPPLY [IPS, INDICATIONS & ACTION TO BE TAKEN BY SM ON DUTY:

Power supply to the signalling installation is fed through Integrated Power Supply System [IPS] installed in the S&T power supply room. The IPS is normally fed through Up AT/Down AT traction power selected in auto changeover provided in SM room. Standby power supply is through AP TRANSCO local supply. One change over switch is provided in the SM's room for selection of output of either traction power supply or local power

Station Working Rules of **PUNDI** station

supply. The available traction/local supply is fed to the IPS through auto-change over switch provided in IPS.

The IPS system is connected with battery as a backup power source for safe working during transition of power and in case no 230 AC supply is available due to any reason.

In the event of failures all the sources of 230V 50HZ AC supply, the signalling system shall be fed by power generated by backup battery bank connected to IPS for a limited power of 8 to 10 hours. The health of the battery bank is monitored through one IPS Monitoring Panel provided in the SM's room which shall display the voltage of 110 V.DV battery bank provided as backup source of power supply. Depending up on the health of the battery bank and the system the following indications/alarm will appear on the remote monitoring panel.

The indications/alarm, their implications and action to be taken by SM on duty is tabulated below:

Sl. No	Instruction	Health of Battery Bank/Equipment.	Visual Indication	Audio Indication	Action to be taken by SM on duty
A	-	50% DOD	Red	Alarm	Alarm shall be acknowledged by SM on duty.
B	-	60% DOD	Red	Alarm	-do-
C	System shutdown	70% DOD	Red	Alarm	Signal feed cut off and all DC-DC converters to Work. Audio alarm will continue till power Supply is restored.
D	Call S&T staff.	Equipment fault.	Red,	Alarm	Failure of any module will give the alarm in SM's panel. Alarm shall be acknowledged by SM on duty for audio cut off.

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

Station Working Rules of **PUNDI** station

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

NOTE: [I] DOD indicates depth of discharge of battery bank of IPS [ii] In case of failure of all AC supply sources IPS battery bank can provide power supply maximum up to 8 to 10 hours before system shut down indication of APS

NORMAL POWER SUPPLY TO IBS GOOMTY AT KM 680.604:

Normal power supply to the Signalling and Interlocking installation at the IBS goomty is drawn from the traction power sources (230V-50 HZ, AT1 and AT2) with auto-change over arrangement in IB Goomty through a CLS panel. Whenever any traction power supplies fails, the auto-change over unit will automatically connected to the other available AT supply.

In case of failure of both AT supplies SM should immediately inform to the concerned section controller, Electrical staff and S&T maintenance staff.

APPENDIX 'C'.

ANTI COLLISION DEVICE [RAKSHA KAVACH]

-NIL-

(B.MADHU VENKATASWARLU)
DSTE / WAT

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

APPENDIX-'D'

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

1.0 STATION MASTER (IN CHARGE):

- i) He is responsible for trains passing during his shift.
- ii) He is responsible for the general and satisfactory working of the station and for the efficient discharge of duties by staff working under him.
- iii) He shall keep all Rule books, Registers, Files and documents neat and up to date.
- iv) He shall ensure that all equipment, apparatus, and instruments including signaling and interlocking gears and fittings are kept clean and oiled by S&T officials.
- v) His special attention is drawn to Chapter-II of G&SR and GR 5.01 to 5.08 with relevant SRs and O.M. Chapter-2. He shall follow the instructions laid down in SR.3.68.01 © and (d) and SR 14.07.01 and B.W.M.2.09 (e).
- vi) He shall promptly attend to accidents and report them.
- vii) He shall supervise the work of safe working staff and conduct night inspections and report lapses of staff working under him.

2.0 STATION MASTER:

- i) He is responsible for trains passing during his shift.
- ii) He shall promptly bring to the notice of SM incharge all irregularities and accidents in course of his shift duties.
- iii) During the absence of SM I/C, the duties of the Station Master will devolve on him.
- iv) He shall follow SR 3.68.01(c) and (d) SR 14.07.I and OM Chapter-2.
- v) His special attention is drawn to Chapter-2 of G&SR 1976 and GR 5.01 to 5.08 with relevant SRs.
- vi) As an assistant to SM I/C, he shall carry out the instructions given from time to time.

3.0 TRAFFIC POINTS MAN :

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

4.0 TRAFFIC GATE MAN:

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

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

APPENDIX 'E'**ESSENTIAL EQUIPMENTS**

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

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

(B.MADHU VENKATESWARLU)
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(K.GANESH KUMAR)
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APPENDIX 'F'
RULES FOR WORKING INTERMEDIATE BLOCK SIGNALLING BETWEEN PUNDI
PALASA AND PUN-NWP

The block section between Pundi-Palasa has been split into two block sections by providing Intermediate Block Stop signals at KM 680.584[controlled by Pundi station] for DN line and, on up line at KM 680.584 [controlled by Palasa]. Intermediate Block stop signals are controlled through double line lock and block instruments at the respective receiving ends.

The Block working for section between PUNDI-PALASA and PUNDI-NWP on UP and Down lines is controlled by the provision of Double line Lock and Block Instruments (SGE type) and are provided at PUN, NWP & PSA stations. The IB HOME Signal is electrically interlocked with DLBI of section PUN-NWP. The Down advanced starter signal is controlled and interlocked with I.B. Axle counter section between PUN-NWP & Down I.B. Home signal is interlocked with DLBI of section PUNDI-PALASA.

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

Last stop signal to the intermediate block stop signal in both the sides are controlled by Electronic Axle counter and are worked under absolute block system in terms of G & SR 14.01, 14.13. Indications on VDU provided at PUNDI station.

INDICATIONS PROVIDED ON VDU FOR I.B. SECTION.

The indications of signals, IB and Block sections in both UP & DN directions are shown in the following table:

SECTION PUNDI-PALASA:

Sl.No	Signal Aspect [S-12]	IB Section Indication [12A XT]	IB Home Aspect [S-16]	Block section Indication	Remarks
1	Green	While Illuminated	-	-	Advance starter No:12 is taken off to dispatch a train up to IB Home.
2	Red	Red	-	-	IB Section is occupied.
3	-	-	Green	While illuminated.	IB Home taken off for train up to home of Palasa.
4	-	-	Red	Red	Block section is occupied or IB Home passed at danger.

IB SECTION PUNDI-PALASA:

Sl.No	Signal Aspect [S-59]	IB Section Indication [59A XT]	IB Home Aspect [S-49]	Block Section Indication	Remarks.
1	Green.	While Illuminated.	-	-	Advance starter No: 59 is taken off to dispatch a train up to IB Home.
2	Red.	Red.	-	-	IB section occupied.
3	-	-	Green	While illuminated.	IB Home taken off for train up to home of Pundi.
4	-	-	Red	Red	Block section is occupied or IB Home passed at danger.

SECTION PUN-NWP:

Sl.No	Signal Aspect [S-13]	IB Section Indication [13 A XT]	IB Home Aspect [S-15]	Block section Indication	Remarks
1	Green	While Illuminated	-	-	Advance starter No:13 is taken off to dispatch a train up to IB Home.
2	Red	Red	-	-	IB Section is occupied.
3	-	-	Green	While illuminated.	IB Home taken off for train up to home of NWP.
4	-	-	Red	Red	Block section is occupied or IB Home passed at danger.

IB SECTION NWP-PUN:

Sl.No	Signal Aspect [S-26]	IB Section Indication [26A XT]	IB Home Aspect [S-28]	Block Section Indication	Remarks.
1	Green.	While Illuminated.	-	-	Advance starter No: 26 is taken off to dispatch a train up to IB Home.

2	Red.	Red.	-	-	IB section occupied.
3	-	-	Green	While illuminated.	IB Home taken off for train up to home of Pundi.
4	-	-	Red	Red	Block section is occupied or IB Home passed at danger.

A] **Buzzer/Bell**

One audio buzzer is provided in the SM room at PUNDI to detect Train Entering section for outgoing trains. After train passes the intermediate block stop signal, the buzzer/bell will start ringing Pundi station. On hearing the buzzer/bell the SM must acknowledge the same by clicking on train entering section [TES] muting button to stop the buzzer/bell and then send train entering section report to the cabin master of the station in advance who shall turn commutator of the Double Line Lock and Block Instrument from the Line Clear position to 'Train On Line position' and acknowledge train entering section following the procedures laid down vide Block Working Manual.

- B) In the event of failure of I.B. track circuit [i.e. track clear indication not available] which shall not permit taking 'OFF' last stop signal, it should be ensured by SM on duty at the dispatching station through exchange of private number with the SM of the receiving station that the last train that passed the last stop signal of his station has fully arrived at receiving station, before allowing the next train to enter in to the section, such permission to the next train shall be granted and the section PUN-PSA shall be shall be treated as single section.

By issuing the pilot memo when normalization of the system is not possible. In such case, line clear has to be taken on lock and block instrument. Trains are to be dispatched from the station only after obtaining line clear till such time track circuit are last stop signal is restored to normal.

C) **NORMALIZATION OF THE TRACK CIRCUIT AND OF BLOCK WORKING BY RESETTING FEATURE:**

- i) No train should be allowed to leave station in any particular direction unless I.B. track clear indication is available for the relevant track circuited portion of I.B. section and last stop signal cannot be taken off and provision stipulated in SWR to be followed.
- ii) A Resetting arrangement for the resumption of I.B. Axle counter under failure condition through co-operative features of both the SM on duty at either end

station of the Block section is provided, which should only be resorted to after the train that was lastly sent arrives fully at the receiving station and is certified in this respect by the SM at the receiving station through exchange of private number.

- iii) For monitoring of I.B. section working & re-setting of I.B. Axle counters, Track Indications and Re-setting arrangements are provided with button icons on the VDU at Pundi station and operating panels [re-setting panels] provided at Palasa station at South Cabin of Palasa Station. Counters are also provided for the purpose of recording the re-settings for the I.B. Axle Counters in case of failures in IB section. The Re-setting button and permission granting button on the Resetting Panel shall at Palasa should normally be kept sealed by the S&T staff and SM will inform the Maintainer for resealing the same whenever the seal has been broken.
- iv) The SM on duty at Pundi station shall maintain a separate register for use of resetting at IB Axle Counters wherein every operation of the resetting button shall be recorded giving details of date of use, train, number, time, number registered in the counter on VDU and reasons for resetting and initial each such entry.
- v) The procedure for resetting of the I.B. Axle counters in terms of clause g.II above shall be as follows:

SECTION PUNDI-PALASA ON DOWN LINE:

	DISPATCHING STATION [PUNDI]		RECEIVING STATION [PALASA]
1	SM on duty shall call the attention of SM of Palasa station through Telephone for re-setting I.B. Axle counter zone giving details of last train left the station into the section.	1	SM on duty at Palasa after verifying that the said dispatched train arrives fully, shall exchange private number with SM on duty at Pundi and gives permission to re-set by pressing the 'Permission Granting' button provided on the re-set panel.
2	On getting re-set permission on VDU SM on duty shall acknowledge by clicking on 'Permission received from PSA' acknowledgement button icon. For each such operation the reset counter provided in VDU shall increase by one digit. SM on duty shall make an entry of changed Reset counter number in re-	2	SM on duty at Palasa shall continue to press the 'Permission Granting' button.

	setting register.		
3	SM on duty then shall re-set the I.B. Axle counter by clicking on 'DN Re-set Key' and select 'Key In'. After which he shall click on the 'Re-set button' icon, which will reset the Axle Counter.	3	SM Palasa shall also press 'Re-set' button provided on re-set panel at Palasa station simultaneously at the same time for re-setting of I.B. Axle counter.
4	On completion of re-setting process I.B. section clear indication will appear on VDU.	4	The SM on duty at Palasa shall record in his train register the re-setting operation giving train number, time and private number exchanged with the SM of Pundi station giving reasons for the re-setting operation.

SECTION PALASA-PUNDI ON UP LINE:

	DISPATCHING STATION [PALASAI]		RECEIVING STATION [PUNDI]
1	SM on duty shall call the attention of SM of PUNDI station through Telephone for re-setting I.B. Axle counter zone giving details of last train left the station into the section.	1	SM on duty at PUNDI after verifying that the said dispatched train arrives fully, shall exchange private number with SM on duty at Palasa and gives permission to re-set by clicking the 'Permission Grant' push button [To PSA] provided on the VDU.
2	On getting re-set permission on re-set Panel SM on duty shall acknowledge by pressing 'Permission received from PUN' acknowledgement button. For each such operation the reset counter provided in Operating Panel shall increase by one digit. SM on duty shall make an entry of changed Reset counter number in re-setting register.	2	SM on duty at Pundi shall continue to click the 'Permission Granting' button'.

3	SM on duty then shall re-set the I.B. Axle counter by turning 'DN Re-set Key' and press the 'Re-set button' on the re-set panel, which will reset the Axle Counter.	3	SM Pundi shall also click 'Re-set' button provided on VDU at Pundi station simultaneously at the same time for re-setting of I.B. Axle counter.
4	On completion of re-setting process I.B. section clear indication will appear on re-set panel.	4	The SM on duty at Pundi shall record in his train register the re-setting operation giving train number, time and private number exchanged with the SM of Palasa station giving reasons for the re-setting operation.

SECTION PUNDI-NAUPADA ON UP LINE:

	DISPATCHING STATION [PUNDI]		RECEIVING STATION [NAWPADA]
1	SM on duty shall call the attention of SM of NWP station through Telephone for re-setting I.B. Axle counter zone giving details of last train left the station into the section.	1	SM on duty at NWP after verifying that the said dispatched train arrives fully, shall exchange private number with SM on duty at Pundi and gives permission to re-set by pressing the 'Permission Granting' button provided on the re-set panel.
2	On getting re-set permission on VDU SM on duty shall acknowledge by clicking on 'Permission received from PSA' acknowledgement button icon. For each such operation the reset counter provided in VDU shall increase by one digit. SM on duty shall make an entry of changed Reset counter number in re-setting register.	2	SM on duty at NWP shall continue to press the 'Permission Granting' button.
3	SM on duty then shall re-set the I.B. Axle counter by clicking on 'DN Re-set Key' and select 'Key In'. After which he shall click on the 'Re-set button' icon, which	3	SM NWP shall also press 'Re-set' button provided on re-set panel at NWP station simultaneously at the same time for re-setting of I.B.

	will reset the Axle Counter.		Axle counter.
4	On completion of re-setting process I.B. section clear indication will appear on VDU.	4	The SM on duty at NWP shall record in his train register the re-setting operation giving train number, time and private number exchanged with the SM of Pundi station giving reasons for the re-setting operation.

SECTION NAWPADA-PUNDI ON DN LINE:

	DISPATCHING STATION [NAWPADA]		RECEIVING STATION [PUNDI]
1	SM on duty shall call the attention of SM of PUNDI station through Telephone for re-setting I.B. Axle counter zone giving details of last train left the station into the section.	1	SM on duty at PUNDI after verifying that the said dispatched train arrives fully, shall exchange private number with SM on duty at NWP and gives permission to re-set by clicking the 'Permission Grant' push button [To NWP] provided on the VDU.
2	On getting re-set permission on re-set Panel SM on duty shall acknowledge by pressing 'Permission received from PUN' acknowledgement button. For each such operation the reset counter provided in Operating Panel shall increase by one digit. SM on duty shall make an entry of changed Reset counter number in re-setting register.	2	SM on duty at Pundi shall continue to click the 'Permission Granting' button'.
3	SM on duty then shall re-set the I.B. Axle counter by turning 'DN Re-set Key' and press the 'Re-set button' on the re-set panel, which will reset the Axle Counter.	3	SM Pundi shall also click 'Re-set' button provided on VDU at Pundi station simultaneously at the same time for re-setting of I.B. Axle counter.

4	On completion of re-setting process I.B. section clear indication will appear on re-set panel.	4	The SM on duty at Pundi shall record in his train register the re-setting operation giving train number, time and private number exchanged with the SM of NWP station giving reasons for the re-setting operation.
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D) **DISPATCH OF TRAINS:**

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

E) **From PUNDI towards PALASA.**

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

F) **PUNDI TO IBS ON UP AND DOWN LINES:**

The SM on duty shall ensure that the portion of line between Advanced Starter and 400 Mtrs beyond IBS at their respective ends is clear of obstruction and indication to this effect is available in the VDU and shall also ensure any non-isolated shunting at their respective ends suspended and shunting authority issued if any is withdrawn and kept in his custody.

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

G) **IBS SIGNAL TO THE STATION IN ADVANCE:**

The SM on duty shall obtain line clear over lock & Block instruments from the station in advance to dispatch a train past the IBS signal at the respective ends and shall take off the IBS signal by means of taking of signal No.16 of Pundi.

After the train passes the intermediate Block Stop signal of PUNDI a buzzer will ring in the VDU. On hearing the buzzer/bell the SM must acknowledge the same by clicking train entering section [TES] muting button to stop the buzzer/bell and then send train entering section report to the cabin master of the station in advance who in turn will turn commutator of the Double line Lock and Block Instrument from the line clear position to Train On Line position and acknowledge train entering section. After dispatch of a train from PUNDI into the Block section between PUNDI and intermediate Block Post in case when the intermediate stop signal is not taken 'off' but the buzzer has started ringing, this

may be either due to the train passing intermediate Block stop signal at 'ON' position or due to failure of the track circuit in advance of that intermediate Block Signal and shall exchange Private Number with the Cabin Master in advance indicating the occurrence and the number of the train. On getting the information from the Cabin Master supported by Private Number, the SM on duty at Pundi in turn will inform SCR on duty about this.

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

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

On receipt of this information, the SM on duty after ensuring that all trains which had left his Block Station had arrived complete and intact at PSA station (by exchange Private Number with the SM PUN confirming this), shall press the resetting button of the axle counter. When the resetting is successful, it shall be indicated by a green light in the resetting panel provided in the SM's office at PUN. The use of this resetting button is registered on the veeder Counter and the SM should record this giving the details of the occasion with timings in the Veeder Counter register kept in the station.

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

- I) **DESPATCH OF TRAINS IN CASE OF FAILURE OF INTERMEDIATE BLOCK STOP SIGNAL:**

- [a] When a LP finds an intermediate Block Stop signal at 'ON' Position he shall stop his train in rear of the signal and advise the guard of the fact by sounding long continuous whistle and shall then contact the Station Master of the Block Station in rear over the signal post telephone provided for the purpose vide SR.3.75.01[i].
- [b] If the SM of Pundi station, on being contacted over Telephone by the Loco Pilot, finds that the signal is defective, he shall, after obtaining "Line Clear" for the train from the station in advance, authorized the Loco Pilot on the telephone to pass intermediate Block Signal at "ON" and enter the block section ahead. He shall give Loco Pilot the Private Number and identification Number under which he has received "Line Clear" for the train from the station in advance.

The LP shall then sound one short, one long and one short whistle and, on receipt of Guard's signal shall proceed ahead duly exchanging signals with him. The station Master on being contacted by the Loco Pilot on signal post telephone if he is unable to obtain "Line Clear" for the train due to total interruption of communications, shall call for the Guard's through the Loco Pilot and on being contacted by guard, he shall advise the guard of the circumstances and give a Private Number for the train to proceed up to the next block station. The guard shall prepare a memo in duplicate authorizing the Loco Pilot to proceed with the Private Number received from the Station Master. In such case the speed of the train shall be restricted as prescribed in GR 3.75(3).

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

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

On reaching the block station ahead the Loco Pilot shall report the failure of the signal to the Station Master. If, the telephone is provided at the intermediate Block Stop signal Post is out of order the Loco Pilot will pass the IB signal as per GR 3.75(3) & SR 3.75.02, and on reaching the block station ahead, the Loco Pilot shall report the failure of the signal to the SM, Following train shall not be allowed to leave PUNDI unless the complete arrival of the receiving train is certified by the SM on duty at PALASA under exchange of Private Numbers.

The station Master of the block station working the intermediate block stop signal on becoming aware that such a signal is defective shall, before dispatching the train, treat the entire section up to the block station immediately ahead of the intermediate block post as one block section and issue a written authority to the Loco Pilot to pass the defective intermediate Block Stop Signal at "ON" without stopping at the signal. In accordance with the procedure prescribed by special instruction.

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

- [d] However, if the SM on the Block station immediately in rear of an intermediate Block Signal is aware that UP/DN intermediate Block Signal is defective shall before Dispatching a train shall verify that all trains which had left his Block Station had arrived complete and intact at PALASA station (by exchanging Private Number with SM- PALASA) shall press the resetting button of Axle counter equipment. Thereafter Loco Pilot shall be handed over the authority of T-369[3b] to pass IBS Signal at "ON" position where in, the Private Number and indication number obtained for line clear, shall also be written. The use of this re-setting push button is registered on the veeder counter and SM should record this usage giving details of the occasion with timings in the veeder Counter/register and also train registers.

[J] **INDICATION CUM RESETTING PROVISION IN THE VDU AT PUNDI:**

The VDU Provided for following light indications:

- a) Two green indications for the track- circuited portion by Axle Counter, which remain normally lit to indicate that the track is clear. These lamps extinguish no sooner the train passes the last stop signal and their place two red indication are lit to indicate that the track is occupied.
- b) Two red indications for the last stop signal replacement track circuit which remain lit so long this track- circuit is occupied or in under failure condition.

- c) Two red indication ahead of the IBS Signal, which are lit if the train passes the side signal in "ON" Position. These indications continue to glow till such time the lock and block working is resumed through emergence re-setting feature.
- d) Two red indications just ahead of IBS Signal for the IBS signal replacement track circuit. These indications normally remain dark and are lit either during occupation by a train or during failure of this track circuit.
- e) Two red indications for the block section for receiving trains. These indications shall normally remain no indications and shall be lit only when the incoming train passes the IBS signal. It remains lit till such time train arrives fully and Block Instrument is normalized.

[K] RE SETTING PROVISION IN THE VDU AT PUNDI STATION:

For resetting of I.B. Axle counter please refer Para No: 5.2 of Appendix 'B' of this SWR.

[L] SPECIAL INSTRUCTION IN CASE OF A TRAIN PASSING IBH AT 'ON' POSITION:

- I] In case train run away indication appears the SM at receiving Station shall not turn the block instrument handle to line clear position and SM at sending station shall not take any action to despatch the third train unless the second train which passed the IB signal in the 'ON' position has actually arrived and its complete arrival is verified by the receiving station.
- II] Every case of a train passing IB signal at 'ON' position without strictly following the provision of GR 3.75 should be treated as a breach of block rule by the Loco Pilot and action to be taken accordingly.
- III] When train run away indication appears at the Dispatching Station without any train in the section, the IBS system should be treated as failed and Signal Maintainer should be advised. All the subsequent trains shall be Piloted OUT after duly taking line clear treating entire section as one Block section as per GR 3.75(4).
- IV] Whenever a train after having obtained line clear passes IBS (when not taken off) in "ON" position the train run away indication appears at the Dispatching cabin and train entering section indication appears at the receiving station, under such circumstances no further train shall be allowed in the section till said train arrives completely at the receiving station i.e., station in advance, and its complete arrival received at the receiving station i.e. station in rear supported by Private Number treating the entire block section as single section.
- V] If any train passes IB Signal at 'ON' position when there is a train in the Section between IBS and the station ahead, the train run away indication will appear at both receiving and Dispatching station. Under such circumstances the SM in the receiving station shall not turn the Block instrument to Line Clear position and SM at sending station shall not take action to despatch the (3rd) train, unless the

2nd train which passes the IBS in the 'ON' position has actually arrived and its complete arrival is verified by the receiving station.

- VI] Permission button to be pressed for the runaway train by break opening the seal only after verifying that the last vehicle of the runaway train has arrived in tact and ensured by exchange of private number with the SM of the sending station. In case of failure of Axle Counter equipment at the sending station, permission button may also be pressed for normalizing the system only after verifying that there is no train in the section and after duly exchanging Private number with the SM of the sending station.
- VII] Whenever a train run away indication appears when there is a train in the section, no further train should be allowed in the section till resetting is done as per item No.30.3 above.
- VIII] Before any re-setting operation is done, the Dispatching station should advise the receiving station giving details of the last train that has entered the section and should ensure by exchanging of private number that the last train has arrived complete at receiving station.

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

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

- IX] If resetting is not possible under item as mentioned above, the system should be treated as failed and train will work treating the entire section up to the Block Station immediately ahead of the IBS Post as one block section as per GR 3.75(4).

X] **Action to be taken when a train passes Intermediate Block Stop Signal at 'ON'**

a) **By SM of Block Station in advance of the Intermediate Block Stop signal**

- i) Shall not turn the Block Instrument commutator to "Line Closed" Position Unless the complete arrival of the train which passed IBS at "ON" position is ensured, without any exception even for such a train which leaves the rear station after obtaining line clear and passes IBS at "ON" position, since there is a chance of leaving a vehicle or vehicles in the Axle Counter area where the function of Axle Counter also fail when IBS is passed at "ON" position.

- ii) In case the bottom needle of the SGE type block instrument is in its 'Line closed' position action should be taken to turn the block instrument commutator to 'TOL' Position vide BWM 5.16(2)(iv) and must not turn to "Line closed" and then to "Line clear" position unless the train which had passed the "Intermediate Block Stop Signal" in the 'ON' position arrives complete and its complete arrival is verified.
- b]** By the SM of Block Station in rear of the intermediate Block Stop Signal must ensure that last stop signal controlling entry of trains into the section between the last stop signal and the intermediate Block Stop Signal is in its 'ON' position and shall under no circumstances take 'OFF' or attempt to take 'OFF' the said last Stop signal even if the Axle counter/Track circuit section from his block station up to and including the adequate distance beyond the Intermediate Block Stop signal shows 'clear' unless the train which had passed the intermediate Block Stop signal in the 'ON' position arrives complete the block station in advance and its complete arrival is verified, and intimate the SM of the block station in advance the number, description and the departure time of the last train Dispatched from his block station under exchange of Private number.
- c)** By the SM of both the block stations in rear and in advance of the intermediate Block Stop Signal.
 - i) After the complete arrival of the last train, according to the information received vide sub-para (b) above, the SM of the block station in advance shall communicate the same to the SM of the station in rear supported by a Private Number which shall be acknowledged by the later by issuing Private Number. Thereafter the SM of the dispatching station and the SM of the receiving station shall operate the 'Resetting ' and 'reset' panel respectively in conjunction. This simultaneous operation will cause the 'counter' to 'reset panel' at the dispatching station to illuminate then the SM shall operate the push button which in turn will record the next higher number in the counter.
 - ii) The SM of the Block Station in advance shall then take steps to normalize the block instrument.
 - iii) Record of Private Number exchange and the number shown in the counters shall be maintained by the concerning SM in the train signal (Cum log) Register/Trine Log Register.

It is to be noted that in terms of GR3.75 whenever intermediate block stop; signal is at 'on' a Loco Pilot must stop his train in rear of the signal and contact the SM of the block Station in rear on the telephone provided on the signal post who will authorize him to pass the signal in 'ON' position supported by Private Number and identification number which were taken for the line clear from the station in advance. If the telephone is not provided or is out of order, the Loco Pilot, after waiting for 5minutes shall pass it at "ON' but he must report the

failure to the SM at the Block Station ahead after following the provision in GR.3.75(3). This would mean that the Loco Pilot shall either get an authority on telephone from the station master or must report at the station ahead about the failure of the telephone. If none of those provisions are complied with, it should be taken as breach of Block Rules.

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

[M] RUNNING OF MOTOR TROLLYS ON IBS ZONE:

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

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

SIGNAL POST TELEPHONE:

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

NORMAL POWER SUPPLY TO IBS GOOMTY AT KM 680.604:

Normal power supply to the Signaling and Interlocking installation at the IBS goomty is drawn from the traction power sources (230V-50 HZ, AT1 and AT2) with auto-change over arrangement in IB Goomty through a panel. Whenever any traction power supplies fails, the auto-change over unit will automatically connected to the other available AT supply.