

**EAST COAST RAILWAY
WALTAIR DIVISION**

STATION WORKING RULES OF GUNUPUR [GNPR] [BROAD GAUGE]

Date of Issue:

Date brought in force:

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

(1) STATION WORKING RULE DIAGRAM:

- i) STATION WORKING RULE DIAGRAM No. : SI/WRD/23188 ALT 'D'
 ii) SIGNAL INTERLOCKING PLAN : SI/23188 ALT 'D'
 iii) DATE UP TO WHICH CORRECTED :

(2) DESCRIPTION OF STATION:**1.1. GENERAL LOCATION:**

i)	Name of the station	GUNUPUR
ii)	Class of station	'B' class
iii)	Section	NAUPADA – GUNUPUR
iv)	Double line/Single line	Single line
v)	Electrified	Electrified
vi)	Gauge BG/MG/NG	BG
vii)	Railway	East Coast Railway
viii)	Route	'E' Route
ix)	Situated at	Km.89.990 [OHE Mast KM.89/18-19]
x)	Reckoned from	NAUPADA
xi)	No. of Cabin	Centrally Operated Panel Interlocking
xii)	Standard of Interlocking	Standard 1(R)
xiii)	Operation	Control Panel for Operation of Points, Signals and Other Controls.
xiv)	EP/PI/RRI	PI

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

(i)

S.No	Adjacent Block Station	Distance	Direction
1.	PARLAKIMIDI	50.775 km	NWP end
2.	Provision of IBS	Nil	
3.	Automatic signal	Nil	
4.	DK station/Outlying sidings	Nil	

(ii) Passenger Halt

Between Blocks	No of Passenger HALTS	Km Ex NWP
PLH – GNPR	a) Sitapuram (SRPM)	51.685
	b) Haddubhangi (HBF)	55.997
	c) Kashinagar (KNGR)	64.520
	d) Lihuri (LRI)	71.287
	e) Banasadhara (BSDR)	78.289
	f) Palasinghi (PLSG)	83.953

(iii) Non-Block Stations:

Name of Non-Block Stations	Between Sections
LIHURI (LRI)	GNPR-PLH
HADDUBHANGI (HBF)	GNPR-PLH

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

Between Stations	The Point from which the Block section commences	The Point at which the 'Block Section' ends
GNPR-PLH	From Advanced starter signal No. 12 of GNPR	UP Advanced starter signal no. 17 of PLH.
PLH-GNPR.	From up Advanced starter signal 17 of PLH.	Advanced starter signal no. 12 of GNPR.

2.4 GRADIENTS:a) From the Centre of the station building towards PLH:

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
0.000 F/CSB	1390 M	1390 M	1 in 400 Falling
1390 M	1890 M	500 M	1 in 1300 Falling
1890 M	2290 M	400 M	1 in 500 Falling
2290 M	2740 M	450 M	1 in 250 Falling
2740 M	3140 M	400 M	Level

b) From the Centre of the station building towards GNPR end:

Chainage in Mtrs from		Stretch	Gradient
From	To		
0.000 F/CSB	353 M	353 M	1 in 400 Raising

2.5 LAY OUT:A) RUNNING LINES IN THE MAIN YARD.

Sl. No.	Running/Non Running line	Electrified/ Non Electrified	Platform with Length
1.	Line no-1 (Loop Line)	Electrified	Low Level (350 M x 10 M
2.	Line no-2 (Main Line)	Electrified	-

B) TOWER WAGON SIDING:

The Tower Wagon Siding (TWS) takes off from Line No. 1 at NAUPADA end of the yard with single side entry. The Tower wagon Siding is isolated from line No. 1 by DS point No. 21. The SM on duty is to press the SH-6 GN button along with TWS-UN button simultaneously to receive the train on Tower wagon siding. Similarly to dispatch the train from Tower wagon siding, SH-7 GN button along with L1/UN1 button to be pressed simultaneously to receive the train on Loop line No-1.

2.5.1 RUNNING LINES, DIRECTION OF MOVEMENT & HOLDING CAPACITY IN CSL:**Direction of traffic:**

The trains coming from Parlakhemundi and are proceeding towards Gunupur are UP trains and the trains coming from Gunupur and proceeding towards Parlakhemundi are DN trains.

Holding Capacities of lines in CSL:

SN	Name of the Line	Holding Capacity in CSL	Direction of Movements
1.	Line No 1 (Loop Line)	730 M (From STR to SH)	Trains coming from PLH are UP Trains and proceeding towards PLH are DN Trains
2.	Line No 2 (Main Line)	750 M (From STR to SH)	

2.5.2 NON RUNNING LINES AND THEIR CAPACITY IN CSL:

Tower Wagon Siding CSL of 155 M (SH – DE)

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT:

- i) Starter Signal No.5 & 6 are placed and at a distance of 3 M from the replacement Track Circuit Glued Joint.
- ii) 10 Kmph Speed restriction board is provided on UP Home Signal No.1.

2.6 LEVEL CROSSINGS:

The following LC Gates are existing between GNPR – PLH :

SN	LC Gate No. & KM	OHE KM	Traffic / Engg.	Interlocked / Non-Interlocked	Controlling Station	Means of Communication
1	NG-62, KM:76/0-1	KM:76/1-2	Engg.	Non-Interlocked	GNPR	Cellular Phone
2	NG-63, KM:78/0-1	KM:78/2-3	Engg.	Non-Interlocked	GNPR	--Do--
3	NG-64, KM:80/2-3	KM:80/5-6	Engg.	Non-Interlocked	GNPR	--Do--
4	NG-65, KM:83/1-2	KM:83/2-3	Engg.	Non-Interlocked	GNPR	--Do--
5	NG-66, KM:84/6-7	KM:84/13-14	Engg.	Non-Interlocked	GNPR	--Do--
6	NG-67, KM:86/7-8	KM:86/13-14	Engg.	Non-Interlocked	GNPR	--Do--
7	NG-60, KM:73/0-1	KM:72/19-73/1	Engg.	Non-Interlocked	LHI	--Do--
8	NG-61, KM:73/7-8	KM:73/13-14	Engg.	Non-Interlocked	LHI	--Do--

Detailed working of Level Crossings are mentioned in Appendix 'A'.

3. SYSTEM AND MEANS OF WORKING :

System of working in force	:	Absolute Block system of Working
Double Line / Single Line	:	Single Line
Block Instruments	:	Handle type Token less Block Instruments
Co-operative / Non Co-operative	:	Co-operative
Block Telephones	:	Attached with Block Instruments.

4. SYSTEM OF SIGNALLING AND INTERLOCKING:**4.1**

1	Standard of Interlocking	STANDARD 1 (R)
2	Type of Signalling	MACLS
3	Mode of Operating the Signals	Control Panel.
4	Provision of Calling ON Signals	Calling-on signals is provided below UP Home signal No.1 A/B as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b).
5	Provision of Shunt Signals	SH-7, SH-3, SH-6, SH-5, SH-9 and SH-4 are provided at either end of the yard.
6	Emergency Cross Over	NIL
7	Track Circuits	Both Main Line and Loop lines 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 (5 Rail length) track circuits are also provided in rear of the Home signals. Track circuit No. 1AT,1T,12AT,19AT,19BT,L2T1,L1T1,L2T2,L1T2,L2T3,L1T3,20BT,20 AT and 4 AT are provided. Indications for the above track circuits/Axle Counters are available on Panel at SM's office.
8	AXLE COUNTER/HASSDAC :	HASSDAC is provided between GNPR-PLH for last vehicle checking. Complete arrival of trains at respective stations is proved by these devices. A pair of HASSDAC is provided between GNPR-PLH, one just beyond Advance starter signal No.12 of GNPR and another just beyond Advance starter signal No.17 of PLH. A resetting arrangement for resumption of the system in case of failure of Axle counter has been provided in the SM office of the adjacent stations. After being assured by both the SM that the last vehicle has arrived completely at the receiving station by exchanging PN then resetting to be applied with. First train has to be piloted out at the sending station after reset procedure for clearance of the Axle counter. Resetting procedures are detailed in Para No. 6.0 of Appendix 'B'.
9	Crank Handle	Refer Para No.6.2 of Appendix 'B' of this SWR.
10	Emergency Point Operation	Refer Para No.10 of Appendix 'B' of this SWR.
11	Emergency Crank Handle	As per Para No.6.4 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:

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

4.3 POWER SUPPLY:

Normal: AT supply 230V, 50Hz

Stand by: Local Supply & DG Set (1 No.)

- i) CLS Auto Change Over panel is provided in the SM's office with the three power supplies viz AT, local power supply and DG for changing the switch to the required supply position. Luminous indicator's are provided above the circuit breaker for each supply to indicate the availability of the supplies.
- ii) Normally the rotary switch will be kept towards AT position. Whenever the power block is to be given, the on duty SM must ascertain that other two sources i.e local and DG supply must be available i.e local supply must be available and DG set is in working condition.
- iii) During the non-availability of AT supply SM on duty shall keep the rotary change over switch towards the local supply to feed available local supply to the Installation.
- iv) In case of failure of AT supply without any power block, on duty SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is UP and when tripped, it goes DN). In case of failure of AT supply, the local supply/DG supply shall be utilized by operating the switch. If the circuit breaker is tripping, even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEE/GEN and SSE/PSI/TRD/GEN for prompt rectification.
- v) For IPS system that provides uninterrupted Power Supply to Signalling System, the selection output of the Auto Change Over from the CLS Panel provided at SM Office is taken.
- vi) There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

[B] REMOTE MONITORING ASM BOX:

Remote monitoring ASM box gives alarm to the ASM for the following fault conditions:-

- a) 50% DOD (Depth of Discharge) of Battery. In this condition Audio/Visual alarm comes which can be acknowledged with audio cut off.
- b) 60% DOD (Depth of Discharge), which warns for emergency. The Alarm for this condition is same as for condition 1.
- c) 70% DOD (Depth of Discharge), which signals system, shut down. In this condition Signal feed cut off and all DC-DC converters continue working. Audio alarm will continue till power supply restored.
- d) Any of the Module fails, which calls for "Call S&T".
- e) Whenever there is a failure of AT supply, 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 AT supply and make an entry in station diary duly initiating action for rectification of failure, if any.

5. TELECOMMUNICATIONS:

- a) The Station is connected to VSKP - PSA Main line Control Circuit.
- b) Telephone attached to TLBI with UFSBI section GNPR-PLH.
- c) Railway Auto telephone is provided at the station.
- d) The Station is connected to VSKP – PSA Traction Power Control Circuit.
- e) Telephone Communication is provided to LC Gates NG-62, 63, 64, 65, 66 & 67. Telephone Communication is provided for Adjacent Block Station – LIHURI.
- f) VHF set is provided at the station.
- g) CUG phone is provided at this station with SM on duty.

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

The duties of the Train Working Operational Staff in detail are described in the Appendix – ‘D’ of this SWR.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:**STAFF IN EACH SHIFT:**

Station Master	1
TPM/TP	1

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

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

- i) The Station Master on duty is responsible to nominate clear line that is clear of all obstructions from the Home Signals to Starter Signal inclusive of adequate distance beyond it for admission of trains vide 3.40 (1)(a), 3.40(3)(b).
- ii) The clearance of the running line for the reception of the train is to be verified by the Station Master on duty by verifying illuminated indication provided on the Panel Board.

6.1.3 ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:

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

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

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

Fresh assurance shall be obtained in the Assurance Register when:

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

6.2 CONDITIONS FOR GRANTING LINE CLEAR:

A) For section PLH-GNPR:

- i). The conditions laid down in GR 8.03 (2) (a) (b) (c) (ii) shall be complied with SM on duty before line is considered clear and line clear is granted for section PLH-GNPR.
- ii). Line shall not be considered clear and line clear shall not be granted to a UP train unless:
 - a) SM ensure the reception signals pertaining to a train are in 'ON' Position and glowing properly vide GR 3.49 (4).
 - b) Whole of the last train passed over the section has arrived completely.
 - c) UP Home signal /calling-on signal No. 1(A/B) and/or C-1(A/B) is put back to 'ON' position.
 - d) Line is clear up to DN Advanced Starter Signal No.12 of GNPR.

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

NIL

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE:

When a running line is blocked by stabled load wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train at the station etc., the points at either end should immediately be 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 :

On complete arrival of a train at the station, the SM has to set the points immediately against the occupied line.

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.

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.

On setting the points against the occupied line, the RED indication will disappear.

In case SM fail to set 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 sent 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 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 consequences/causalities vide SR 3.51.06 (b). These precautions shall be taken in addition to the observation of other precautions as contained in SR 5.04.01 ad SR 5.23.01. Block collars to be placed on the concerned button of the blocked line.

6.2.1.2 RECEPTION OF A TRAIN ON BLOCKED LINE:

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

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE: NIL

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE: NIL

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

6.2.1.6 ANY SPECIAL CONDITIONS:

- i) The working instructions between GNPR-PLH are prepared after introducing two Non-Block Stations at LRI and HBF are prepared based on PCOM/BBS Special Instruction No.ECoR/Optg./SC/55/XV/Spl.Inst./LC/NWP-GNPR. Dt.20.08.2018 and should be read in conjunction with SWR of GNPR Station.
- ii) On obtaining the line clear from SM/PLH, SM/GNPR shall ensure about the closure of LC Gates between GNPR-LRI by exchanging PN with SM/LRI.
- iii) SM/GNPR shall issue a caution order to the LP and Guard of the train subject to the other speed restrictions in force in that section that, "All the Gates between GNPR-LRI are closed and locked against road traffic and the LP is required to stop at LRI".
- iv) SM/GNPR shall then take OFF last stop signal to dispatch a train.

a) SPECIAL RESTRICTIONS: NIL

b) SPECIAL INSTRUCTIONS:

- i) Starter Signal No.5 & 6 are placed and at a distance of 3 M from the replacement Track Circuit Glued Joint.
- ii) 10 Kmph Speed restriction board is provided on UP Home Signal No.1.

6.3 CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS:-

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

6.3.1 RESPONSIBILITY OF STATION MASTER FOR RESTORATION OF SIGNALS TO “ON”:

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

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

NOT APPLICABLE

ADEQUATE DISTANCE: (SIGNAL OVERLAP)

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

CLEARANCE OF ADEQUATE DISTANCE (SIGNAL OVERLAP)

FOR UP TRAINS		
Line No.	From	To
1	Stop Signal No.5	The end of over run line.
2	Stop Signal No.9	Up to the Stop Board.

6.5 COMPLETE ARRIVAL OF TRAINS: :- (Rule No. GR 4.16 & SR 4.17.01 GR 14.10)

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

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

In case a train passes incomplete, action shall be taken as per SR.4.17.02, “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 TRAIN BETWEEN PLH-GNPR SECTION:

- a) Dispatch of trains is governed by GR 3.36 to 3.39, 3.42, 3.43, 5.11, 8.01(a), SRs 3.36.01, 3.36.02(a)(b), 3.36.03, 3.36.04(b), 3.42.01(b), 3.42.02(a)(i), 3.42.04, 5.11.01 and other provisions of GR & SR, BWM and Operating Manual.

To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the Panel. He shall suspend all non-isolated shunting and then shall take “OFF” the concerned route starter and advanced starter signal. The ‘OFF’ aspect of the advanced starter is the authority to proceed into the block section. As soon as the train passes the advanced starter signal, Train entering section indication will appear on the

Panel. The SM will then send the train entering given section signal to the station in advance.

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

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.

(b) **ISSUE OF CAUTION ORDERS:**

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

6.7 TRAINS RUNNING THROUGH:

Not applicable.

6.8 WORKING IN CASE OF FAILURE:

TRACK CIRCUITS :	In case of failure of Track Circuits, the clearance of the concerned line should be ensured physically by SM on Duty before a Train is piloted.
AXLE COUNTER/HASSDAC :	High Availability Single Section Digital Axle Counter (HASSDAC) provided for GNPR-PLH. These two LVCDs are named as SSDAC-1 and SSDAC-2. The status of both systems is provided as indications beside of the operating VDUs. Working of operations are mentioned in para 6.0 Appendix B of this SWR.
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 BWM. 6.16, 6.17 & 6.18.
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 :	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. 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 initiated 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].
INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE :	However, before declaring a point is defective, the setting of the point on the route to which it applies shall be inspected by their Station Master irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.70 & SR 3.77.01(b)]. Initiate action in accordance with the procedure prescribed in GR and relevant Subsidiary Rules there to. [Refer GR 3.49(4) & 3.68, 3.77].

DEFECTIVE INTERLOCKING :	When Interlocking become defective, the SM on duty shall be responsible for correct setting, clamping and padlocking of points for admission of train. [Refer SR 3.69.3(b)(i) & 3.69.01].
DEFECTIVE / DAMAGED POINTS :	When any point fails to operate normally by the route setting operation through Panel it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank Handles and 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.

6.9 PROVISIONS FOR WORKING OF TROLRIES/ MOTOR TROLRIES/ MATERIAL LORRIES ETC':

- a) Motor trolleys shall be worked as per GR 15.25 and SRs there to, BWM 5.11(1) (2), 5.12, 5.13, 5.14(2) (a) and circulars and orders issued from time to time. Material trolleys shall be worked as per GR 15.27 and SRs there to and in accordance with the provisions of Block Working Manual.
 - b) Tower wagons shall be worked as per GR 17.08 and SRs there to and BWM 4.39 and other circulars and orders issued from time to time.
 - c) Push trolleys shall run under block protection only vide SR 15.25.09(e).
 - d) Trolleys, Motor Trolleys, Lorries which are not insulated shall not be allowed to run except on line clear.
 - e) Motor Trolleys/Tower Wagon/Material Lorries are not likely to actuate the Axle Counter correctly.
 - f) In all other respects the working of a light motor trolley shall conform to the rules laid down for ordinary trolleys while running without block protection and to those laid down for motor trolleys while running under block protection or following another light motor trolley.
- Note:** Trolleys which are to be run on track circuit area shall be insulated as per SR 15.20.02.

7 BLOCKING OF THE LINES:

A clear remark in 'RED' ink shall be made immediately in the Train Signal Register indicating date, time, and number running line blocked. A record thereof shall also be made in the Station Diary vide SR 3.36.3(b), 3.51.06(a), 5.23.01(a) shall be followed.

8 SHUNTING:

8.1 GENERAL PRECAUTIONS:

Shunting will be carried out at the station in accordance with General Rule and relevant Subsidiary Rules and Block working Manual [Refer GR 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16 to 5.23, 8.05, 8.06, 8.14 and 8.15]. The SS/SM on duty is authorized to supervise shunting operation. Normally back shunt, shunt below starters and starter signals shall be used for shunting operations. The official supervising the shunting shall ensure the correct setting, clamping and padlocking of points in case of Non-Signaled movements.

The SS/SM on duty and the official supervising shunting shall cooperate with each other regarding shunting operations. Neither reception signals nor departure signals shall be taken 'OFF' unless the shunting is isolated and the path of incoming or outgoing train is free from obstructions. The overrun line may be used as shunting neck. Guard is authorized to supervise shunting vide SR 5.13.03 when the train is brought to a stand at GNPR Station, before detaching the engine, the loco pilot shall seek permission from the Guard, who shall certify himself that the hand brakes are tighten and then grant permission detaching engine. The TPM shall accompany the engine with clamps, padlocks and safety chains. He will uncouple engines from the train and will attach the engine on train. The Guard and Loco Pilot shall be jointly responsible for checking the adequacy of brake power of the trains following the rules laid down in SR 4.31.03.

NOTE:

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

a) **CUSTODY OF KEYS AND PAD LOCKS DURING SUCH MOVEMENT:**

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

b) **AUTHORITY FOR SHUNTING OPERATIONS:**

Concerned shunt signals shall be taken off for shunting operations. In case shunt signal cannot be taken off, the SM on duty shall issue retain shunting authority on form T/806 to the driver through Guard of the train when the non signal shunting is restored to. This memo shall be withdrawn whenever shunting is to be suspended for reception and dispatch of train if the line on which shunting is performed is not isolated. After shunting is completed the order shall be collected from the LP cancelled and pasted with the record file as per SR 5.13.02.

NOTE:

Points both facing and trailing are to be clamped and padlocked for all non-signaled movements. Further it must be ensured that the entrance and exit track circuit are clear as also the intervening track of the cross over is clear of any obstruction and certified so by the operating official (who is responsible for shunting supervision) before the SM on duty resumes normal working either for reception or dispatch of trains in the station yard or through the station yard.

c) **NON-SIGNALLED MOVEMENTS:**

All signaled movements in the yard either of train or of an engine with or without vehicles shall be from one stop signal to next stop signal or stop board and no half way movements are permitted and if such movements are permitted in unavoidable situations it should be considered as non-signalled movement and precautionary measures should be taken such as clamping and pad locking of points enroute both interlocked and non-interlocked points including derailing switches according to SR 5.3.05 and 5.14.03.

8.2 SHUNTING IN SINGLE LINE :

- a) **Within the yard:** Shunting within station may be carried on within the yard up to Advance starter, provided the necessary reception signals are kept 'ON' vide GR 8.10 (1).
- i) **Beyond opposite first stop signal :** Unless the line is blocked back, the line outside the first stop signal shall not be obstructed vide GR 8.13.
- ii) **During failure of Block instrument:** Block back messages shall be exchanged between Station Master at either end of the section which is intended to be obstructed supported by private number. Both the Station Masters shall fix line block collars on respective Block Instruments and shall continue shunting provided the Block section is clear.

8.3 SHUNTING IN THE SIDING TAKING OFF FROM THE STATION YARD:**Tower Wagon Siding :-**

- a. While performing shunting in the Tower Wagon 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.
- b. All signal movements in the yard either of train or an engine with or without vehicles shall be, from one stop signal to the next stop signal and no half way movements are permitted and when such movements are unavoidable, it should be taken as non signalled move and precautionary measures should be taken such as clamping and padlocking of points on the route both interlocked and non-interlocked points including derailing switches whether directly or locally operated with or without locks according to GR 5.05 and 5.14.03.

9 ABNORMAL CONDITION:-**a) RULES TO BE OBSERVED IN THE EVENT OF ABNORMAL CONDITIONS:****i). Partial interruption/Failure:**

In the event of suspension of Block instrument and during partial failure of other available means of communication, the procedures detailed below shall be followed for working of trains in different situations.

- 1) Failure/Suspension of Block Instrument or track circuit -
Line clear shall be obtained on the Telephone attached to the block instrument or station telephone exchanged ID number and supported by Private Number.
- 2) Failure/Suspension of Block Instrument or Telephone attached to the Block instruments or station fixed telephones-
Line clear shall be obtained on Railway auto Phone or BSNL phone by exchanging identification number supported by a private number.
- 3) Failure/Suspension of Block Instrument or Track Circuit or Telephone attached to the Block instruments or station fixed telephones or Railway auto Phone or BSNL phone.

Line clear shall be obtained on control phone by exchanging identification number supported by a private number.

- 4) Failure/Suspension of Block Instrument or Track Circuit or Telephone attached to the Block instruments or station fixed telephones or Railway auto Phone or BSNL phone or control phone.

Line clear shall be obtained on the VHF set by exchanging identification number supported by a private number.

The authority to proceed for the Loco pilot is T/369(3b) bearing identification number and private number received from the station in advance written both in figure and words. [Refer SR 6.02.06 & Chapter-V of BWM].

- ii). **The authority to proceed in occupied block section in case of obstruction of line or accident:**

Rules and regulations for working of trains on obstructed line in case of obstructions or accident on the authority of Block Ticket T/A 602 when communications are available shall be followed in accordance with the provisions of SR 6.02.02 and 06.02.05.

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

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

- v). Failure of Axle counter Block/BPAC: Not applicable.

- vi). Failure of MTRC: Not applicable.

9.1 TOTAL FAILURE OF COMMUNICATION:

In the event of total failure of communication on double line, trains shall run on the authority to proceed without line clear in terms of SR 6.02.03 & on single line, as per SR 6.02.04.

9.2 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

Not Applicable.

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

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

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

10 VISIBILITY TEST OBJECT: NIL

11 ESSENTIAL EQUIPMENT AT THE STATION:

(Details are given in Appendix-'E')

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

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

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

12.1 STATION DETONATOR REGISTER (OPT/124)

A Register regarding detonator is maintained at the station.

12.2 INSTRUCTIONS:

a) This register contains the following parts.

- Part. - I : Particulars of fog signal men posted at the station from time to time.
 Part – II : Particulars of receipt and stock of detonating (fog) signals at the station to be filled in whenever detonators are used or received.
 Part – III : Periods of fogs, fog signalmen on duty and details of detonators used.
 Part – IV : Particulars of issue and testing of fog signals at the station.

b) In charge of the station shall ensure that the information maintained in the register is kept up to date and is accurate in all respects.

c) Transportation inspectors shall check the registers and also the stock of detonators on hand each time they visit the station and initial with date as an indication having done so.

APPENDICES:

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

APPENDIX 'A'
WORKING OF L.C. GATES

System of working for Manned LC gates between PLH-GNPR Section.

The working instructions between GNPR-PLH are prepared after introducing two Non-Block Stations at LRI and HBF are prepared based on PCOM/BBS Special Instruction No.ECoR/Optg./SC/55/XV/Spl.Inst./LC/NWP-GNPR. Dt.20.08.2018 and should be read in conjunction with SWR of GNPR Station.

In addition to PLH and GNPR block stations, two passenger Halts viz., Haddubhangi and Lihuri shall be manned by Station Masters round the clock to ensure closing of level crossing gates ahead before allowing train. The normal position of Non-Interlocked Gates is 'Closed to Road Traffic'. The System of working of these Manned LC Gates are as follows:

- (1) Trains between PLH and GNPR will be worked on Absolute Block System of working.
- (2) Total 29 Nos. of LC Gates are existing between PLH and GNPR Section. LC Gates in PLH – GNPR Shall be provided with wireless communication by providing Fixed Cellular Terminal having Communication with SM/PLH, HBF, LRI and GNPR respectively.
- (3) The entire PLH – GNPR Section is divided into 3 Sections as described under for the purpose of communication with LC Gates.

Sl. No.	Section	Distance	Total No. of LCs	No. of LC Gates	Communication with
1	GNPR-LRI	15.403 Km.	06	(NG-62, 63,64, 65, 66 & 67)	GNPR
			02	(NG-60 & 61)	LRI
2	LRI-HBF	16.79 Km.	06	(NG-54, 55,56,57,58 & 59)	LRI
			03	(NG-50, 52 & 53)	HBF
3	HBF-PLH	16.79 Km.	06	(NG-43,45,46,47 & 49)	HBF
			06	(NG-37,38, 39, 40, 41 & 42)	PLH

- (4) All Gatemen shall be provided with PN Book and a Gate Log Book to note down the details of Train movements, PNs exchanged along with timing.
- (5) All Gatemen shall display a banner flag invariably across the track while the gate is open condition except at interlocking gates.
- (6) Station Masters at 2 new locations i.e. HBF & LRI shall be provided with PN Book and a diary to note down the details of train movements, PNs exchanged along with timing and other necessary records.

Procedure for dispatching a train from PLH – GNPR :

- a) The normal position of the level crossing gate being “closed to road traffic”, it should be always be in closed condition against road traffic.
- b) SM/PLH shall obtain L/C from Gunupur and take off the Last stop signal only after exchanging PN with SM/HBF as an assurance that all the gates between PLH-HBF are closed.
- c) SM/HBF after exchanging PN with SM/LRI with an assurance that all the LC Gates between HBF-LRI are in closed condition shall issue a Caution Order indicating him “TO PASS THE LC GATES UP TO LRI”.
- d) SM/LRI after confirming that the LC Gates between LRI and GNPR are in closed condition shall issue a Caution Order up to GNPR quoting him “TO PASS THE LC GATES UPTO GNPR”.

J.N.A. NATH
Dy.CSTE/RE/BBS

S.PRABHU
DSTE / WAT

AMEESHA
DOM / G / WAT

Procedure for dispatching a train from GNPR – PLH :

- a) SM/GNPR shall obtain Line Clear from SM/PLH but SM/GNPR shall not permit any train to enter the section, unless he is assured of the closure and locking of the gates by SM/LRI supported by exchange of private number.
- b) SM/LRI after confirming that the LC Gates between LRI and HBF are in closed condition in the similar procedure described above shall issue a Caution Order up to HBF quoting him "TO PASS THE LC GATES UPTO PLH".
- c) SM/HBF after confirming that the LC Gates between HBF and PLH are in closed condition in the similar procedure described above shall issue a Caution Order up to PLH quoting him "TO PASS THE LC GATES UP TO PLH".

Procedure for opening the LC Gate :

When the gateman desires to open the gate for passage of road traffic he should ensure that :

1. He has not exchanged any private number with the SM or Gateman of LC Gates.
2. If he has exchanged private number with Station Master the whole of the train with last vehicle indicator has passed over the level crossing gate and the Station Master has not exchange the private number with him for any other movement immediately in rear of the train or on the adjacent line(s).
3. Before opening the gate for road traffic he shall display banner flag/danger signal at either side of the track at distance of 5m away from the gate. Then he shall open the gate for passing the road traffic keeping red flag/red hand signal lamp ready in his hand to stop approaching train if any. Whenever LC Gate is in open condition at night shall place LED based flashing red light across the track instead of banner flag.

This system of working is to be followed by all Permanent & Temporarily Manned LC Gates in between Parlakhemundi – Gunupur Section.

APPENDIX 'B'**SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATION ARRANGEMENT AT THE STATION GUNUPUR (GNPR) TERMINAL YARD**

DETAIL OF SIGNALING 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:

GUNUPUR (Terminal Yard) station is a 'B' Class station based on SI Plan No.23188 ALT-'D' with Standard-I(R) Interlocking. The points and signals are power operated from a 'DOMINO TYPE' panel installed in the Station Master's Office. The station is equipped with manually operated Multiple Aspect Colour Light Signaling.

1.1 Description of Panel :

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

1.2 Point Buttons :

Push Buttons Black for individual operation of points are provided for each point. Point group push buttons (Black with Red dots) for operation of points normal / reverse are also provided. Point button and point group button normal / reverse shall conjunctively be pressed for operation of point to required position. To indicate the position of point, a white steady strip in Normal Direction to indicate Normal Position of Point, and a White Steady Strip in Reverse Direction to indicate Reverse Position of Point.

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

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

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

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

1.7 Operation of Points :

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

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

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

2.1 Description of Points :-

SL	Point Button No.	Colour	Description
1	19 WN	Black	Cross over point between Up & Dn. Main Lines at PLH end.
2	20 WN	Black	Cross over point between Up & Dn. Main Lines at Terminal end.
3	21 WN	Black	DS Point extended on Line No-1 towards Tower wagon Siding.

2.2 SIGNAL BUTTONS :-

SL	Button No.	Colour	Description
1	C1	Red with White dot	Up Calling-on Signal for Line No.1 & 2
2	S1	Red	Up Home Signal for Line No. 1 & 2
3	S12	Red	DN Advance Starter Signal S-12
4	S10	Red	Main Line (Line No.2) Starter Signal S-10
5	S6	Red	Line No.1 Starter Signal S-6
6	SH3	Yellow	Shunt Signal for Line No.1and 2
7	SH9	Yellow	Dependent Shunt Signal for Line No.2 (Main Line)
8	SH5	Yellow	Dependent Shunt Signal for Line No.1
9	SH4	Yellow	Shunt Signal for Line No.1and 2
10	SH6	Yellow	Dependent Shunt Signal for reception of Trains on Tower wagon Siding.
11	SH7	Yellow	Shunt Signal for reception of Trains on Line No. 1.

3.0 SIGNAL INDICATIONS: -

Aspects of signal as obtained at any time, is shown on the panel on the signal indication (along side of the track).

3.1 CALLING ON SIGNAL:

Calling-on signals is provided below UP Home signal No.1 A/B as per GR.3.13 (1)(b), (2)(3)(4) & (6) (b). To take off the Calling on signal the train must come to a stop at the foot of the Home signal. The time release for Calling On signal clearance in 60 seconds.

4.0 ROUTE BUTTONS:

Route buttons are provided separately on each running line on the panel for indication of route (viz. L1 UN, L1 UN1, L2 UN). Common route buttons are also provided (viz.: 12A UN for

Dn Starter Signal, 12 UN for Dn Advance Starter Signal & 4AT UN for SH5 & SH9 for Shunting Movement).

4.1 DESCRIPTION OF ROUTE BUTTONS :-

Sl.	Button No.	Colour	Description
1	L1 UN	White	Route button for UP Home Signal UP Line No.1 (Point No.20 Reverse)
2	L1 UN1	White with Black Dot	Route button for UP Home Signal for setting overlap towards over run line, for Calling-on, Shunt Signal & reception of Train on Line No No.1 from Tower Wagon Siding.
3	L2 UN	White	Common Route button for Line No.2 for UP Home and Calling-on Signal and Shunt Signal.
4.	12 AUN	White	Route button for DN Starter Signals
5.	12 UN	White	Route button for DN Adv. Starter Signal
6.	4AT UN	White	Common Route button for Shunting Movement.
7	TW UN	White	Route Button for reception of Train on Tower wagon Shed.

4.2 CRANK HANDLE PUSH BUTTONS :-

Sl.	Button No.	Colour	Control Points
1	CH-1	Blue	To be pressed to extract Crank Handle Key for operation of point No.19A/B & 21.
2	CH-2	Blue	To be pressed to extract Crank Handle Key for operation of point No.20A/B

4.3 MISCELLANEOUS PUSH BUTTONS :-

Sl.	Button No.	Colour	Description
1	SM's Emergency Point Operation Key	---	This Key is to be inserted and operated in the event of Emergency Point Operation.
2	SM's Panel Key	---	To lock the Control Panel to prevent unauthorized operation.
3	Group Trans Push Button	White with Black Dot	To be pressed to initiate slot of Crank Handle or LC Gate operation along with concerned slot / Crank Handle / LC Gate Button.
4	Group Release Push Button	White with Black Dot	To be pressed to withdraw / normalize the control of slot of Crank Handle or LC Gate operation along with concerned slot / Crank Handle / LC Gate Push Button.
5	Point Group Normal Push Button	Black with Red Dot	To be pressed to initiate NORMAL setting of Point along with concerned Point Push Button.
6	Point Group Reverse Push Button	Black with Red Dot	To be pressed to initiate REVERSE setting of Point along with concerned Point Push Button.
7	Emergency Route Release Push Button	White with Red Dot	To be pressed for Emergency Route Release

8	Signal Cancellation Push Button	Red	To be pressed for cancelling a signal which is already taken 'OFF' or to release after passagae of a Train
9	Signal Lamp failure / Point failure Acknowledgement	Red with White Dot	To be pressed for acknowledging Signal Lamp / Point failure.
10	Up Train arrival acknowledgement Button. Section PLH - GNPR	Chocolate with White Dot	To be pressed for acknowledging of Up Train arrival.
11	Power Failure Indication / Buzzer and Power Acknowledgement	Red	To be pressed for power failure acknowledging and indication white is flashing either main or auxiliary.
12	Emergency point operation	Black with Red Dot	It is sealed button and it is to be pressed for emergency operation of point.
13	Crank Handle Operation	Blue	it is to be pressed for release of Crank Handed for concerned point.
14	Button held acknowledgement	White with Red Dot	It is to be pressed in any button held up in pressed condition.

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

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

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

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

6.0 HASSDAC (DUAL) WORKING FOR OPERATION:

High Availability Single Section Digital Axle Counter (HASSDAC) provided for GNPR-PLH. These two LVCDs are named as SSDAC-1 and SSDAC-2. The status of both systems is provided as indications beside of the operating VDUs.

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

6.2 CRANK HANDLE OPERATION:

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

CRANK HANDLE CONTROL FOR OPERATION OF POINTS :

S.No.	Crank Handle	Control Points
1	CH 1	19A/B & 21
2	CH 2	20A/B

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

6.4 CRANK HANDLE FOR EMERGENCY OPERATION OF POINTS CRANK:

Crank handle is inter locked with the signaling and inter locking system at this station and the crank handle which is normally locked up in the RKT instrument in the location boxes at the both End of the yards can be taken out when the signals on the connected route are in normal position and the route is not locked for any reason.

Even when the route is locked the crank handle key can be extracted from the RKT through emergency operation by pressing the concerned crank handle button along with group Trans button concurrently. When this operation is resorted, the crank handle 'Key in' indication(white) and locked indication (Red) both start flashing. After 120 Second of flashing of both, the locked indication (Red) disappears. Similarly such red indication appears at the crank handle location at site near corresponding RKT and now the crank handle key can be taken out from the RKT at site, After key extracted at site from the RKT, the key in indication (white) on panel, board will extinguish. After completion of work, crank handle key shall be restored to RKT which will be indicated by flashing key in (white) indication on panel board, which comes steady only after pressing of concerned crank handle button along with group release button concurrently.

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

6.5 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.

IMPORTANT NOTE:

When performing shunting operations in the sidings it must be clearly noted that the siding points are interlocked with the system in the NORMAL position of the Points and in REVERSED position they are not interlocked. The official responsible for shunting operation must clamp the points at the both facing and trailing before permitting any movement.

7. **STATON MASTER'S KEY:**

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

8. **EMERGENCY OPERATIONS :**

To carryout different emergency operations, the following procedure to be followed.

9. **CANCELLATION BUTTON OR COUNTER:**

For the purpose of the emergencies operations there is an emergency Route cancellation and also there is a veeder counter for counting emergency operations involving the concurrent operation of the emergency route cancellation button. Initially the SM on duty has to cancel the signal by pressing concerned signal button conjunction with signal cancellation button and again the SM on duty must press the emergency route release button along with concerned signal button for which emergency route release is required. An yellow indication will appear below the signal indicating that the timer has started operation and after lapse of 120 seconds. The desired route will be released provided all other conditions are favourable for the route release.

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

9.2 CANCELLATION OF LOCKING OF ROUTE AND POINTS AFTER THE SIGNAL HAS BEEN PUT BACK TO 'ON':**OR****THE SIGNAL HAS GONE BACK TO ON EITHER AFTER THE MOVEMENT OF THE TRAIN IS CANCELLED:****OR****THE TRAIN HAS COME TO A STOP OUT SIDE THE STOP SIGNAL :**

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

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

10. EMERGENCY OPERATIONS OF POINTS :**a) IN CASE OF POINT ZONE TRACK CIRCUIT FAILURE :**

The Station Master on duty can operate points from panel in case of point zone track circuit fails. The Station Master on duty after physical verification inserts the SMS emergency point key and turn. Keeping emergency point key in that position the Station Master on duty must press the individual point button along with emergency point operation button (Black with Red Dot) by breaking the seal. He shall then release the emergency point operation button only and press the point group normal to reverse button as per requirement keeping the individual point button is pressed condition. Points will be set to normal or reverse position as per operations during the initiation one RED indication will appear above the emergency point operation button. This operation will be registered in an emergency point operation counter placed above the emergency point operation button and counter registers to next higher number each time emergency point operation is initiated. SM on duty shall ensure sealing of emergency operation button by S&T maintenance staff after completion of emergency point operation.

11. INTERLOCKING OF SIGNALS:

- 11.1 All running line points are fitted with point machine and are electrically detected by the relevant Home Signal and Starters.
- 11.2 Advance Starter is interlocked with respective Token Less Block Instrument in LINE CLEAR position.
- 11.3 Home Signals are interlocked with respective Token Less Block Instruments. The Block instrument cannot be made to normal unless the respective home signal is in normal position.
- 11.4 Signals once taken OFF can be put back to ON. In case of emergency by pressing the concerned signal button in conjunction with signal cancellation button even when the panel is locked up with Station Master's Key.

12. LOCKING OF RELAY ROOM:

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

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

13.1 The regular maintenance of S&T installations and adherence to the schedules of maintenance is also the mandatory schedules of testing of points, track circuits, the associated interlocking, apparatus i.e, cables, and finally the interlocking functional tests is must for the safe and satisfactory working of those installations at GNPR Stations.

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

Whenever there is a failure of points, track circuits, signals or any other interlocking gears at the station, the failure report should be communicated by the station master on duty through a memo to the sectional maintainer and the signal engineer of the section along with others as per G&SR 3.51.04 & 3.68.04 and document all such transactions.

14.1 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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

14.2 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

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

15. PROCEDURE FOR CARRYING OUT PLANT MAINTENACE WORK :

However any normal maintenance or special works for heavy renewals etc. are involved, these works should be preplanned by the Signal & Telecommunication Field Staff and the inspector of the section should give to the station master in writing "Advance Intimation" about this planned works in terms of GR 15.08.01.

16. EMERGENCIES:

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

17. CORRECTING TIME IN STATION CLOCK:

The Station Master shall set the time on his clock according to the time signal given by the section control on duty at 16:00 Hours. Every day according to SR 4.01.01 and 4.01.02.

18. NORMAL POWER SUPPLY AND STAND BY POWER SUPPLY :

The Station works on 230 Volt power supply from local supplies with auto changeover arrangement. AT Supply – Main Supply.

18.1 NORMAL POWER SUPPLY – MAINTENANCE OF POWER SUPPLY, POWER FAILURE AND REPORTING SUCH FAILURES :

AT Supply with 230 Volts 50Hz and Power supply drawn from local supply and auto change over switch arranged for change of DG.

19. WORKING OF POINTS – POSITION OF POINTS :

The normal position of all points shown in the Station Working Rule Diagram No. SI/WRD/23188 and also in the minmic indication panel provided in the Station Master's office.

19.1 All crossover points and independent points on the running lines are worked y Electric Point Machines have inbuilt locking and detection arrangements. These points are remotely controlled from the panel situated in the Station Master's office.

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

20. INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:**20.1 INTERLOCKING WITH HOME SIGNALS :**

The UP Home signal is electrically interlocked with the respective Tokenless Block Instrument so that before the handle of the instrument can be turned from TRAIN COMING FROM position to LINE CLOSED position, all the buttons controlling the Home Signals of UP direction as the case must be in their NORMAL position.

20.2 The DOWN Advance Starter Signal is electrically interlocked with respective Tokenless Block Instrument so that the signal cannot be taken OFF until the handle of the concerned Block Instrument is in TRAIN GOING TO position.

21. BURNING OF SIGNAL LIGHTS:

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

22. POWER FAILURE INDICATION/BUZZER & POWER ACKNOWLEDGEMENT:**22.1 POWER SUPPLY ARRANGEMENT FOR THE SIGNALLING INSTALLATION:**

Normal: AT supply 230V, 50Hz

Stand by: Local supply & DG Set (1No.)

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

- i) Normally supply from AT connected to OHE Traction distribution [230 V 50 Hz].
- ii) Stand by supply from Odisha State Electricity Board (OSEB) [Single phase 230V-50Hz].
- iii) Stand by supply from Diesel Generator set [Single phase 230V-50Hz].
- iv) Normal power supply [Single phase 230V-50Hz] to the Signalling & Interlocking installation at the station is drawn from the traction power sources. Whenever traction power supply fails SS/SM on duty shall operate the rotary change over switch provided in the CLS power panel at SM's office connecting the power supply from the healthy sources to the installation.

The SS/SM on duty however maintain the record of AT power supply/ local supply/ DG power supply and he must promptly report the failure of AT supply immediately through the section controller and to the concerned Electrical Staff and S&T maintenance staff.

- a) A change over switch is provided in the SM's office with the three power supplies viz AT supply, local power supply and DG supply for changing the switch to the required supply position. The availability of the supply is indicated by luminous indicator above the circuit breaker for each supply.
- b) Normally the switch will be kept towards AT supply position. Whenever the power block is to be given on the line, on duty SS/SM must ascertain the power is available on the local supply and change over the switch to desired position e.g if power block is to be given, local supply and DG set working must be available.
- c) In case of failure of AT supply without any power block, on duty SS/SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is UP and when tripped, it goes DN). In case of failure of AT supply without any power block, the local supplies shall be utilized by operating the change over switch. If the circuit breaker is tripping, even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEE/GEN and SSE/PSI/TRD/GEN for prompt rectification.

Whenever there is failure of AT supply, the on duty SS/SM shall take prompt action to inform to all concerned for the rectification. The on duty SS/SM himself, during his daily checks, shall test the availability of AT power supply and make entry in station diary duly initiating action for rectification of failure, if any.

22.2 REMOTE MONITORING ASM BOX:

Remote monitoring ASM box gives alarm to the ASM for the following fault conditions:-

- a) 50% DOD (Depth of Discharge) of Battery. In this condition Audio/Visual alarm comes which can be acknowledged with audio cut off.
- b) 60% DOD (Depth of Discharge), which warns for emergency. The Alarm for this condition is same as for condition 1.
- c) 70% DOD (Depth of Discharge), which signals system, shut down. In this condition Signal feed cut off and all DC-DC converters continue working. Audio alarm will continue till power supply restored.
- d) Any of the Module fails, which calls for "Call S&T".
- e) Whenever there is a failure of AT supply, 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 AT supply and make an entry in station diary duly initiating action for rectification of failure, if any.

22.3 WORKING OF INTEGRATED POWER SUPPLY [IPS, INDICATIONS & ACTION TO BE TAKEN BY SS/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. For IPS system, a manual changeover switch is provided at SM's Office with the two power supply viz., selected supply from CLS panel and DG supply for changing the switch to required supply position. Normally manual changeover switch is kept in selected supply from CLS panel position, if in case any emergency changeover switch is changed to DG supply position. There is a remote monitoring ASM box provided at the station to monitor the health of 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 of all the sources of 230V 50HZ AC supply, the signalling system shall be fed 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 110V DC 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:

SN	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 ASM'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. 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 3 to 4 hours before system shut down indication of APS.

23. TELECOMMUNICATIONS:

- a. The Station is connected to VSKP - PSA Main line Control Circuit.
- b. Telephone attached to TLBI with UFSBI for section GNPR-PLH.
- c. Railway Auto telephone is provided at this station.
- d. Telephone communication is provided between Station Master on duty to Up CH location and to Dn CH Location.
- e. The station is connected to VSKP - PSA traction power control circuit.
- f. The station is connected to VSKP - PSA traction loco control circuit.
- g. VHF set is provided at the station.
- h. CUG phone is provided at this station with SM on duty.

NOTE

- a) For obtaining line clear VHF should be used as a last alternative and not as a sole means of communication.
- b) VHF & Walkie-Talkie sets should not be used for unnecessary discussion with Loco pilot Guards and any other staff.

24. FALURE OF COMMUNICATIONS – FAILURE OF BLOCK INSTRUMENTS:

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

- 2) In the event of suspension/failure of Block Instrument and attached to block instrument line clear transaction shall be made on station to station Magneto Phone exchanging identification Number and supported by a Private Number vide SR 6.02.06 (1) (a).
- 3) In the event of suspension/failure of Block Instrument, attached to block instrument and station to station Magneto Phone, line clear transaction shall be made on Control Telephone exchanging identification Number and supported by a Private Number vide SR 6.02.06 (1) (a) (c).
- 4) In the event of failure of all communications train shall be worked in terms of SR 6.02.04.

25. WORKING OF AUTOMATIC FIRE DETECTION AND ALARM SYSTEM:

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

AUTO DIALLING:

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

APPENDIX 'C'

ANTI COLLISION DEVICE [RAKSHA KAVACH]:

---NIL---

APPENDIX 'D'

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

1. STATION MASTER (IN-CHARGE):

- i) He is responsible for trains passing during his shift.
- ii) He is responsible for 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 up to date.
- iv) He shall ensure that all equipment, apparatus and instruments including signaling and interlocking gears fittings are kept clean and oiled by S&T Official.
- v) His special attention is drawn to chapter- II of G&SR and GR 5.01 to 5.08 with relevant SR and O.M. Chapter-2. He shall follow the instructions laid down in SR. 3.68.01(C) and (d) and SR. 14.07.01 and B.W.M. 2.09 (e).
- vi) He shall promptly attend to accident 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. 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 duties.
- iii) During the absence of SM I/C, the duties of Station Master will devolve on him.
- iv) He shall follow SR. 3.68.01(C) and (d) SR 14.07.01 and OM Chapter-2.
- v) His special attention is drawn to Chapter-2 of G&SR 1976 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. TRAFFIC POINTS MAN:

- i) He shall work under the orders of 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.
- i) He shall do loading and unloading of parcels, smalls and Guard's boxes. He shall do piloting IN and OUT.
- ii) 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.
- iii) He shall follow OM Chapter-2.

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

APPENDIX 'E'

ESSENTIAL EQUIPMENT:

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

SN	Description	Station
i	Detonators	20
ii	LED based Tri Colour Flashing Torch.	3 (1 spare)
iii	Hand Signal Flags	3 (1spare)
iv.	Safety chains with Pad locks	6
5	Clamps with Padlocks	8
6	Skids	6
7	Wedges	4
8	Fire & sand bucket	6
9	Fire Extinguishers	2
10	Line blocking collars	6
11	Motor trolley on line board	2
12	Block suspension board	2

APPENDIX 'F'**WORKING OF D.K.STATIONS, HALTS, IBS AND OUTLYING SIDINGS**

SL NO.	PROVISIONS	DESCRIPTIONS
1	DK STATIONS	NIL
2	HALTS	NIL
3	IBH	NIL
4	OUTLYING SIDINGS:	NIL

APPENDIX - 'G'

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS:

ENCLOSED

J.N.A. NATH
Dy.CSTE/RE/BBS

S.PRABHU
DSTE / WAT

AMEESHA
DOM / G / WAT