

**EAST COAST RAILWAY
SAMBALPUR DIVISION**

STATION WORKING RULES OF BICHHUPALI STATION (CODE: BHPI)

BG/MG/NG: Broad Gauge
Date of issue: 24.06.2021
Date brought into force:

NOTE: The Station Working Rule (SWR) must be read in conjunction with General and Subsidiary Rules and Block Working Manual. These rules do not in any way supersede any rule in the above books.

1. STATION WORKING RULE: -

1.1 STATION WORKING RULE DIAGRAM NO:- S.I/WRD – 22134, ALT-'A'.

1.2 SIGNAL INTERLOCKING PLAN NO: - S.I – 22134, ALT-'A'.

The Station Working Rule diagram and Signal Interlocking Plan shows the complete lay out of the yard, siding, normal position of points, the Signaling and Interlocking arrangements, Gradients and Level Crossings within the station limits. This must be referred to for giving details of the point number and signals when reporting accidents.

2. DESCRIPTION OF STATION: -

BICHHUPALI is a three-line station situated in BALANGIR-KHURDA ROAD section at KM. 14.58 (OHE K.M. 274/6-8) from BALANGIR & KM 274.150 from KHURDA RD JN. It is Standard – II(R) interlocked Class 'B' station with Electronic Interlocking (EI) and LVCD axle counters at either end are provided at the station for last vehicle check.

2.1 GENERAL LOCATION:-

- | | |
|--------------------------------|---|
| a) Name of station | : BICHHUPALI (BHPI) |
| b) Class of station | : 'B' class |
| c) Section | : BALANGIR-KHURDA Road. |
| d) Double line/Single line | : BG, Single Line |
| e) Electrified/Non Electrified | : Electrified. |
| f) Railway | : East Coast Railway |
| g) Route | : 'E' Special |
| h) Situated at | : KM:14.58 from BALANGIR, 274.150 from KUR
(KM:729.490 from HWH via KUR) |
| i) Reckoned from | : HOWRAH (KM:729.490 via KUR) |
| j) Number of cabins | : NIL |
| k) PI/EI | : EI with two VDU Terminal (One VDU is working and other as stand by) with MACL signals |

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

- | | |
|--------------------|---|
| a) BALANGIR end | : BALANGIR (Code:BLGR) inter distance 14.58 K.M |
| b) Khurda end | : JHARTARABHA (Code:JHARTARABHA) inter distance 10.350K.M |
| c) Passenger Halt | : NIL |
| d) Flag station | : NIL |
| e) Outlying siding | : NIL |
| f) D.K station | : NIL |
| g) IBH | : NIL |
| h) IBS | : NIL |

2.3 BLOCK SECTION LIMITS: -

Between Stations	The point from which "Block Section" commences	The point at which "Block Section" ends
Between BICHHUPALI-JHARTARABHA	DN Advanced starter signal No. 26 of BHPI	UP Advanced starter signal of JHARTARABHA
Between BICHHUPALI-BALANGIR	UP Advanced starter signal No. 25 of BHPI	DN Advanced starter signal No. 20 of BALANGIR

2.3.1 STATION SECTION:-

The station section is between the UP & DN Advanced starter signals of the station.

2.3.2 STATION LIMIT:-

The portion of line between UP & DN Distant signals of BICHHUPALI is the station limit of the station.

2.4: GRADIENT: -

(a) From the Centre of the station building towards BALANGIR.

Chainage in Metre		Inter-Distance	Gradient
From	To		
00.00 M	1050.00 M	1050.00 M	1 in 1200.00 R
1050.00 M	2350.00 M	1300.00 M	1 in 265.31 R
2350.00 M	3350.00 M	1000.00 M	1 in 182.15 R
3350.00 M	4450.00 M	1100.00 M	1 in 211.95 F
4450.00 M	5550.00 M	1100.00 M	1 in 218.25 R
5550.00 M	Block Section	----	1 in 186.15 R

(b) From the Centre of station building towards JHARTARABHA.

Chainage in Metre		Inter distance	Gradient
From	To		
00.00 M	900.00 M	900.00 M	1 in 1200.00 F
900.00 M	1575.00 M	675.00 M	1 in 194.24 F
1575.00 M	2025.00 M	450.00 M	1 in 225.00 R
2025.00 M	4470.00 M	2445.00 M	1 in 407.50 F
4470.00 M	Block Section	----	1 in 400.00 R

2.5 LAY OUT: -

I	No. of running lines	03 (Three)
II	No. of sidings	01 (one)
III	No. of Passenger platform	01(One), High level platform beside Line No.-1 – 600 M Long
IV	No. of goods shed platform	01(One), High level platform beside Track Machine Siding taking off from Line No. 1 - 50M (Long) x 6M (Wide)

2.5.1 (i) RUNNING LINES, DIRECTION OF MOVEMENTS AND HOLDING CAPACITY IN CSL: -

Line No.	Description	CSL	Isolation Provided	
			BALANGIR end	JHARTARABHA end
Line No. 1	1 st Loop Line (Common Loop)	755.90 M (STR-STR)	ORL	ORL
Line No. 2	Main line	754.20 M (STR-STR)	-	-
Line No. 3	2 nd (Common Loop)	754.10 M (STR-STR)	ORL	ORL

(ii) DIRECTIONS OF MOVEMENT: -

Trains arriving from **JHARTARABHA** end are UP trains.

Trains arriving from **BALANGIR** end are DN trains.

2.5.2 NON RUNNING LINES AND THEIR CAPACITY :

SN	Description	CAL/CSL	Takes off	Exit	Operation
1.	Line No.1 (Track machine siding Line)	282M (SH-DE)	Line No-1 JHARTARABHA end	One way	VDU Operation

- 2.5.3 **ANY ABNORMAL FEATURE IN THE LAY OUT** :- **NIL**
 2.6 **i) LEVEL CROSSINGS: (STATION SECTION)** :- **NIL**
ii) LEVEL CROSSINGS: (IN BLOCK SECTION) :- **NIL**

3.0 SYSTEM AND MEANS OF WORKING:-

(Rule No. Chapter XIV of G & SR, Chapter III & IV & Part-II & V of BWM)

- i) **System of working** :- Absolute Block System.
 ii) **Type of block instrument** :-Token less Block Instrument DAIDO for BICHHUPALI- BALANGIR and BICHHUPALI- JHARTARABHA section.
 iii) **Instrument** :- Co-operative type for BICHHUPALI - BALANGIR and BICHHUPALI- JHARTARABHA section.
 iv) **Block Telephone** :- Provided with respective block instruments of section BICHHUPALI-BOLANGIR and BICHHUPALI- JHARTARABHA section.
 v) **Staff responsible for their operation:** -SM on duty.
 vi) **Custodian of keys** : -SM on duty.

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING :-

4.1.1 STANDARD OF INTERLOCKING AND TYPE OF SIGNALING:-This station is provided with Standard- II (R) Electronic Interlocking with Multiple Aspect Colour signals. The Home signals and Advanced Starter signals are interlocked with respective block instruments.

4.1.2 TYPES OF SIGNALS: - Multiple Aspect Colour Light Signal. The Aspects & indications of the MACLS is governed by GR.3.08(4).

- (a) **Minimun equipment of signals-**: Distant, Home, Starter and Advance Starter signals in either direction.
 (b) The Station is provided with Central Electronic Interlocking (EI) and having no end cabins. All signals and points are electrically operated from the VDU provided in SM's Office.
 (c) **Method Of Operation:-**
 VDU one as working other as standby are provided in the Station Master's Office to electrically control all signals and points. (The details of operation from VDU is given under Appendix- 'B')
 (d) Provision of Track Circuits and Axle Counter:

I. TRACK CIRCUITS:-

All the lines including point zones between Home and Advance Starter signal in either direction are track circuited. The position of the running lines including point zones i.e. occupied/clear is indicated in the illuminated diagram at the station Master's office. Normally there will no indication of track circuits. It shows 'RED' when the line is occupied and 'YELLOW' when the line is clear provided the route is set. (Detailed track circuits given in appendix-B)

II. **AXLE COUNTER:**

Both side block sections are monitored by Digital axle counter (SSDAC) system. Electronic axle counters along with associated entrance and exit trolley suppression tracks are provided both end of the station just ahead of advanced starters. A pair of Electronic axle counter is provided between BICHHUPALI and BALANGIR, one beyond UP advanced starter signal No-25 of BICHHUPALI station and other just before the DN advanced starter signal No-20 of BALANGIR station for counting the axles 'IN' and for counting the axles 'OUT' to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train. Similarly, a pair of axle counter is provided between BICHHUPALI and JHARTARABHA, one just ahead of DN advanced starter signal No-26 of BICHHUPALI and the other just before the UP advanced starter of JHARTARABHA station for counting the axles 'IN' and counting the axles 'OUT' to indicate whether the block section is clear of trains as well as to verify the last vehicle of the incoming train.

The position of block section i.e. clear/occupied is reflected in the VDU provided in the Station Master's office which shows 'GREEN' when the block section is clear and 'RED' when the block section is occupied.

A reset box consisting of a counter and one resetting key with a push switch and three indications i.e. 'RED', 'GREEN', 'YELLOW' and GREEN miniature with locking arrangement for each pair of axle counter is kept at the station master's office. 'RED' and 'GREEN' indicates occupation and clearance of block section respectively. 'YELLOW' indication glows when power is ON and GREEN miniature glows when resetting operation is initiated and after passage of a train the Axle Counter will clear. The resetting key of this panel is kept locked and sealed in a separate box. The key of the box is kept under the custody of SM on duty.

Whenever a train enters into the block section, block section clear indication 'GREEN' disappears and occupied indication 'RED' appears. If after the complete arrival of the train, 'RED' indication does not change to 'GREEN', it should be assumed as block instrument failure and necessary action as per GR 14.13 to be followed. The axle counter is interlocked with the block instruments of concerned section.

(e) **CALLING- ON SIGNALS:-**

Calling-on signals are provided below Home signals (i.e. in both Up & Down directions) as per GR.3.13 (1) (b), (2),(3),(4) & (6) (b). Miniature colour light Calling-on signal provided the below the Home signals in terms of GR.3.13 (6) (b). A calling-on signal shows no light in the 'ON' position and Yellow light when taken "OFF". A calling-on signal, will be taken 'OFF' for reception of a train when the Home signal above it cannot be taken 'OFF' due to failure or any other reason or for admission of train on block line and for shunting purpose. Before taking 'OFF' Calling on signal during failure of track circuit the route and clearance of the track over which the train will be admitted must be checked physically by SM on duty.

To take "OFF" Calling-on signal the train must come to stop at the foot of the Home signal, occupying the track circuit in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the VDU. The particular route on which train is intended to be received shall be sent by selecting the desired route and SM on duty shall left click on the same after a train occupies the approach track circuit in rear of the Home Signal. The Calling on Signal is cleared after a lapse of 60 seconds i.e. a Yellow light glows at the concerned Calling on Signal on the VDU. Each such operation shall be recorded by the SM on duty along with the reasons to do so. The Calling-on signal route can be released after complete arrival of train or by emergency cancellation.

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

(f) **IBS: - NIL**

(g) STATION MASTER'S OPERATING PANEL:-

The Station is provided with central Electronic Interlocking (EI). All signals and points are electrically operated from the VDU provided at SM's Office. A stand by VDU is also provided to switch over the system in case of failure of working VDU. Calling on signals are provided below Home signals (i.e in both UP & DN directions).

The VDU in Station Master's office electrically controls all signals & points. The VDU is provided with SM's key, user name and password which shall always remain in the personal custody of the Station Master on duty in terms of SR 3.36.03(a).

NOTE: All operations and indications shall be carried out through VDU only. The details of operation from VDU is given under APPENDIX-'B'.

4.1.3 CRANK HANDLE: -

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 handle keys 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.

CRANK HANDLE	CONTROLS POINTS
CH-1 -----	31A/B, 34A/B
CH-2 -----	32A/B, 33A/B
CH-3 -----	35D/S

These crank handle keys 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 key can be released by SM by tracking the mouse pointer on to the concerned crank handle button icon. 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 the Crank Handle. This key can be electrically transmitted to both ends locations of the yard for manual operation of the defectives points.

SM on duty shall personally ensure clamping and padlocking of all facing and trailing points. An emergency crank handle register shall maintained by the SM on duty at the station as Para 2.19 of the Operating Manual. Correct setting, clamping and padlocking of the points devolve on the SM on duty. The cases of failure of Motor operated points should be promptly reported to the concerned Signal Maintainer / SSE (Signal) for immediate rectification.

One Emergency key provided at SM's table to release all Crank Handles of the station during failure of the station during failure of the both VDU. To release the crank handle key, SM should turn the Emergency key. After the completion of 120 sec, the crank handle will be released.

4.1.4 SHUNT SIGNALS:

Independent shunt signals SH3 (A-C) at JHARTARABHA end and SH4 (A-C) at BALANGIR end on the main line have been provided for back shunt movement. SH-5 has been provided for shunting from T.M siding to line no.1. Shunt signal no. SH-12 below starter signal is provided for dispatch of trains from Line no. 1 to T.M. Siding.

4.1.5	POINT AND TRAP INDICATOR: -	NIL
4.1.6	REPEATING SIGNAL (ELECTRIC/BANNER TYPE):-	NIL
4.1.7	EMERGENCY CROSS OVER:-	NIL
4.1.8	L.C. GATE OPERATION: -	NIL
4.1.9	ANTI COLLISION DEVICE:-	NIL
4.1.10	TRAIN PROTECTION & WARNING SYSTEM:-	NIL

4.1.11 EMERGENCY POINT OPERATION (BLACK WITH RED DOT):-

Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit. If such operation is necessary, the SM on duty shall ensure that no vehicle is standing on the concerned point track circuit. Then Emergency point operation key is to be made 'KEY IN' by clicking 'KEY IN' menu. The user name and password is to be logged in. Track the pointer to 'EMERGENCY NORMAL/REVERSE' menu and click. A NORMAL/REVERSE flashing indication will appear and the indication will be steady after the point is set to Normal or Reverse. This action will be recorded in a counter. The counter will increase by next number for each and every such operation 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 the concerned register and SM's diary.

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

4.1.12 EMERGENCY ROUTE RELEASE INDICATION (WHITE) EMERGENCY ROUTE RELEASE BUTTON ICON (WHITE WITH RED DOT):-

The Electronic Interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route. When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02, the concerned signal must be put back to danger.

When the route is set and signal is taken-off, click on the signal. After clicking by the left button on the mouse, a pop-up menu will appear, Click on the cancellation menu (Main/Calling on) of the concerned signal, the signal will immediately go to 'ON' position. 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 number will increase to next higher number for each and every such operation 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 number in the register and SM's diary. In case the route is not released, the concerned S&T staff should be advised for rectification of fault, if any.

NOTE: Details of signaling and interlocking are given in Appendix 'B' of the SWR.

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

As per JPO/02/2012 of 29.08.2012, the following procedure shall be adopted for opening of Relay Room:-

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

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

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

When the key of Operating Lock is returned by S& T staff to SM on duty, he shall first verify the Relay Room for proper locking and then keep the key in safe custody and acknowledge it on the Relay Room key register. If the relay room key is handed over to the Signal staff regarding the interference in safety gears the train shall be piloted in and out.

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

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

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

In case SS/SM on duty comes to know of relay Room opening by unauthorized means or by unauthorized person or by any Group-D' Staff, the signaling system shall be suspended by him and matter immediately reported to Section Controller for necessary action. Senior section Engineer/ Signal & TI of the respective section will check the station records of relay room opening during their inspections and cross check it with data logger/counter reading if provided. Discrepancy, if any, shall be immediately inquired into and advised to Sr. DSTE & Sr. DOM by numbered control message from the station immediately for further action.

4.3 **POWER SUPPLY: -**

- i) CLS power panel with rotary change over switch 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 AEEE/GEN and CTFO/PSI/TRD/GEN for prompt rectification.
- v) For IPS system that provides to EI, auto-change over has been provided.
- 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.

5.0 **TELECOMMUNICATION FACILITIES: -**

1. Telephone attached with Block Instrument for either side block section.
2. Station to Station fixed telephone (Hot line) is provided
3. Station is provided with auto telephone connected with Railway Exchange
4. BSNL telephone is provided
5. The station is connected to BLGR-SPRD control circuit by a control telephone
6. Station to station 25 Watt VHF communication is provided
7. Telephone is provided between Station and both end crank handle locations.
8. Telephone is provided between Station Master & TPC.

- Note:**
- (i) For obtaining line clear, VHF should be used as a last alternative and not as a sole means of communication.
 - (ii) VHF and Walkie Talkie sets should not be used for unnecessary discussions with Loco Pilots, Guards or any other staff.
 - (iii) The on duty SM shall use the above electrical communication instruments stated in para-5.0 from item No. (1) to (6) strictly in order of preference for obtaining/granting line clear vide SR 14.01.01. In case of failure of any of the above means of communication the SM on duty shall work vide SR 6.02.06.

For details refer Appendix 'B'

- 6.0 **SYSTEM OF TRAIN WORKING:** - The movement of trains is controlled by Section Controller on duty whose orders shall be complied with, provided they do not contravene any General Rules, Subsidiary Rules, Station Working Rules, Block Working Manual and other safe working instructions issued from time to time. In the event of suspension of control working, the Station Master on duty shall work independently in conjunction with the Station Master of adjoining block station and shall be responsible to ensure that there is no undue delay to train operation in general.
- 6.1 **DUTIES OF TRAIN WORKING STAFF:** - Details of duties of operating staff are mentioned in Appendix 'D' of the SWR.
- 6.1.1 **TRAIN WORKING STAFF:** - The following are the complement of train working and operating staff provided at this station to work in each shift.

S N	Designation	Rooster	No. of staff in each shift	Hrs. of Duty
1.	Station Superintendent (in-charge)----- SM/ASM-----	Continuous Continuous	01 01	13hrs. 12hrs.
2.	TPM-B/ TPM-A	Continuous	01	12hrs.

The above staff shall work as per the rosters issued by DPO/SBP from time to time and these rosters shall be displayed in the SM's office.

- 6.1.2 **RESPONSIBILITY OF ASCERTAINING CLEARANCE OF THE LINES:** - The SS/SM on duty is responsible to ascertain the clearance of the nominated line between outer most facing points of concerned line as per GR 14.10.
- 6.1.3 **ASSURANCE OF STAFF IN 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 and thoroughly understood the system in force and must sign such declaration.

No Railway servant shall be entrusted with any duty involving safety of the public unless the station in-charge 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 is responsible to see that all the staff are conversant with the Station Working Rules 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 Group 'D' staff, their signature/thumb impression must be obtained after explaining fully about their duties and responsibilities.

The Station Superintendent is responsible personally for maintaining the Assurance Register and for obtaining declaration of the staff working under him. The Assurance Register must be maintained in two parts, one for Group 'C' and the other for Group 'D' staff. A duplicate copy of the Assurance Register must be maintained and kept in personal custody of the Station Superintendent.

The declaration shall be renewed in the following cases: -

- (i) Whenever there is a change in the Station Working Rules.
- (ii) For any staff who have not worked at the station or were away from the station for a period of 15 days or more.

- 6.2 **CONDITIONS FOR GRANTING LINE CLEAR:** -The conditions laid down in GR 8.01 (1) (a) & (c), 8.01 (2) (b), 8.03 (2) (a), (b), (c)(ii) & BWM 2.07 (3) & (4) shall be complied by the Station Master before the line is considered clear & 'Line Clear' is granted for a train by on duty SM. He shall ensure that:

(A) For double line section:- NA

(B) For single line section:- BICHHUPALI-BALANGIR & BICHHUPALI-JHARTARABHA

- i) The whole of last preceding train has arrived complete.

- ii) All necessary signals are put back to 'ON' behind the said train.
- iii) Block section is clear of trains running in the direction towards the block station to which such line clear is being given.
- iv) The line is clear up to Advanced Starter of the station nearest to the expected train i.e. DN advanced starter signal No.26 and UP advanced starter signal No-25.

NOTE: If the light of the reception signal is found not burning, 'Line Clear' shall not be granted for a train till such time it is ensured that the concerned driver is notified of the fact in writing by the SM on duty of the station to which such line clear is to be granted.[Ref: GR:3.49(4), 8.01(1) (a), (b), (c), 8.01(2) (b), 8.03(2), (a), (b), C(ii), 8.03(1) (a), (b), (c)(ii)]

(C) OUTLYING SIDING: - NIL.

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: - All Points shall normally be set for the straight except when otherwise authorized by special instructions. When a running line is blocked by a stable load, wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after arrival of a train at the station, the points at either end should immediately be set against the blocked line except when shunting or for any other movement towards the blocked line is required to be done vide 3.51.06(a). If all the lines at the station happen to be blocked, then SR. 3.51.06 (b) will be followed.

6.2.1.2 RECEPTION OF TRAIN ON BLOCKED LINE: -In case of reception of a train on a obstructed line, the SM shall follow (GR 5.09 and SR 5.09.01).

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE: - Not Applicable.

6.2.1.4 DESPATCH OF TRAINS ON NON-SIGNALLED LINE: - Not Applicable.

6.2.1.5 DESPATCH OF TRAINS FROM LINE PROVIDED WITH COMMON STARTER SIGNAL:- Not Applicable.

6.2.1.6 SPECIAL RESTRICTIONS: -

While overlap is set towards main line granting line clear for reception of train from opposite side is to be restricted. Otherwise, SM must ensure that the train coming from opposite side comes to a dead stop at the foot of the Home Signal before lowering Home Signal setting overlap towards main line for which train is to be received.

6.2.1.7 SPECIAL INSTRUCTIONS:- NIL

6.3 CONDITIONS FOR TAKING 'OFF' APPROACH SIGNALS: -

Reception of trains is governed by General Rules 3.36, 3.38, 3.40, 4.17, Subsidiary Rule 3.42.02 (a) (iv), 3.42.03, 3.36.02, 3.36.04 and other relevant provisions of General and Subsidiary Rules, Block Working Manual and Station Working Rules of the station.

A. CLEARANCE OF A ADEQUATE DISTANCE:-

To Take 'OFF' the Home signal for admission of a train the Adequate Distance (Signal Overlap) as mentioned below shall be kept clear:-

S N	Line No.	UP TRAINS		DN TRAINS	
		FROM	TO	FROM	TO
1	(L-1) Loop line-1	Starter Signal No. 15	Over run line or Advanced starter signal No.25	Starter Signal No. 12	End of Over run line or Advanced starter signal No.26
2	(L-2) Main Line	Starter Signal No. 13	Advanced starter signal No.25	Starter Signal No. 14	Advanced starter signal No.26

3	(L-3) Loop line-2	Starter Signal No. 11	Advanced starter signal No.25	Starter Signal No. 16	Over run line or Advanced starter signal No.26
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Before admitting a train on any line, it must be ensured that the route indication for the respective line shows 'WHITE' indication in the VDU. To receive a train, for which line clear has been given, the Station Master on duty shall nominate a clear line in consultation with the Section Controller on duty. SM shall personally satisfy himself that the nominated line is clear and free from all obstructions by seeing the track circuit indication on VDU or by physical verification of the nominated route in case of failure of track circuit. He shall suspend all non-isolated shunting and thereafter set the points of the nominated route through VDU. He shall then verify from the visual indication available in the VDU that points are set to the desired route.

In case any of the track circuit on the concerned route shows occupied by RED indication even though the other conditions satisfied, the operation through VDU by the station Master on duty will not permit the concerned Home signal to be taken OFF. However, reception of trains will be possible in such case with "Calling on signal" fixed below Home signal at either end provided the first track circuit in advance of Home signal does not show 'RED' indication.

Miniature colour light calling on signal is provided below the home signal 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 cannot be taken 'OFF' due to failure of track circuit or any other reason or for admission of a train on blocked line.

- B. TAKING OFF CALLING ON SIGNAL:** - To take off calling on signal, the train must come to a stop at the foot of the Home signal/Starter Signal, occupying track circuit in rear of the 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 tracking the pointer in VDU on the signal below which the calling on signal is provided. Various options in terms of the total routes over which the signal will lead to will appear on the menu. Then SM must drag the pointer and click over the particular Calling-on route amongst the various options displayed in the menu by the left button of the mouse as a result of which the Calling-on Signal will blink for 60 seconds. After a lapse of 60 seconds, the Calling-on signal below Home Signal will clear, i.e. a White light glows at the concerned Calling-on signal on the VDU. Every such operation has to be recorded by the on duty SM along with the reasons to do so. The Calling-on signal route can be released after complete arrival of the train or by emergency cancellation.

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

- 6.3.1 RESPONSIBILITY OF STATION MASTER FOR RESTORATION OF SIGNALS TO 'ON':** - If for any reason after taking OFF signals, it is required to put back the signal and alter the route, in terms of Subsidiary Rules 3.36.02 (b) (i), a time delay of 2 minutes shall be observed before the points can be altered.

- 6.4 SIMULTANEOUS RECEPTION, DESPATCH, CROSSING & PRECEDENCE OF TRAINS:** - According to the existing interlocking at this station, the simultaneous reception and despatch of trains are permitted as stipulated below (GR 3.47).

(i)	Reception of an UP train on Line No.1 by setting over run line.	Reception of a DN train on Line No.3 by setting over run line or despatch of an UP train from line No.2 or 3.
(ii)	Reception of an UP train on Line No.3 by setting over run line.	Reception of a DN train on Line No.1 by setting over run line or despatch of an UP train from line No.2 or 1.
(iii)	Reception of a DN train on Line No.1 by setting over run line.	Reception of an UP train on Line No.3 by setting over run line or despatch of a DN train from line No.2 or 3.

(iv)	Reception of a DN train on Line No.3 by setting over run line.	Reception of an UP train on Line No.1 by setting over run line or dispatch of a DN train from line No.2 or 1.
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6.4.1 Setting of points during crossing of trains shall be done as per relevant provisions in SR 3.47.01. Rules laid down in SR 3.47.02 shall be followed for berthing and crossing of passenger and goods trains.

6.5 COMPLETE ARRIVAL OF TRAIN: -

(Rule No. GR 4.16 & SR 4.17.01, GR 4.17.02, GR 14.10)

- a) **STAFF RESPONSIBLE TO VERIFY COMPLETE ARRIVAL:** - SM on duty.
- b) **MODE OF VERIFICATION:** Through AXLE COUNTER.

6.5.1 L.V. VERIFICATION THROUGH AXLE COUNTER: -

Entire block section at both sides of the station is monitored by dual detection Digital Axle counter system and the position of block section whether clear or occupied is indicated in the panel/reset box. As soon as a train enters in to the block section, the 'RED' indication appears in the axle counter indication panel/reset box. After the whole train clears the block section, 'GREEN' indication appears on the axle counter indication panel/reset box. This confirms the complete arrival of train and the SM on duty shall give train out of section report on seeing the section clear (GREEN) indication in the panel.

6.5.2 L.V. VERIFICATION WHEN AXLE COUNTER FAILS: - In case failure of axle counter, the Station Master on duty shall obtain complete arrival certificate from the Guard of the train in the complete arrival register (T/1410) maintain at the station for stopping train. For through passing train the station master on duty shall satisfy himself about complete arrival of train by verification of the last vehicle indicator vide Subsidiary Rule 4.16.05 that the train is complete. In case a train arrives/passes incomplete, action shall be taken as per Subsidiary Rules 4.17.02. 'The train out of block section signal' 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 & LP shall be issued with caution order to proceed cautiously and stop short if any obstruction vide SR-4.17.03.

6.5.3 L.V. VERIFICATION WHEN MOTOR TROLLEY FOLLOWING: - On occasion when motor trolley follows a train, the point shall not be altered until the following motor trolley is admitted on the same line. In the event of motor trolley is delayed in the section the Station Master on duty shall take action in terms of Subsidiary Rules 15.25.03 (b) (vi).

6.5.4 RECEPTION OF TRAIN ON BLOCKED LINE:- For admission of a train on a blocked line the SM on duty shall comply with the instructions laid down in GR 5.09 and SRs thereto.

6.6 DISPATCH OF TRAINS:- Dispatch of trains are governed by General Rules 3.36, 3.38, 3.39, 3.42, 5.11 & 8.01, Subsidiary Rules 3.36.04(b), 3.42.04 and Block Working Manual 2.07 (5) (a) (b) and other provisions of General Rules, Subsidiary Rules, Block Working Manual and Station Working Rules of the station.

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 VDU. He shall then suspend all non-isolated shunting and ensure closing of Level Crossing gates if any. After observing the 'OFF' aspect of the route starter and advanced starter, the Loco Pilot shall start his train.

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 is worked without a Guard or Brake Van, the instructions laid down in Subsidiary Rules 4.23.02 and 4.25.02 shall be followed.

6.6.1 **PUTTING BACK SIGNALS TO 'ON' IN CASE OF EMERGENCY:** -If a signal once taken 'OFF' for reception/dispatch of a train has to be, in an emergency, put back to 'ON', the procedure laid down in General Rules 3.36.02 shall be followed. In case of reception of train, route shall not be altered until the train has come to a stand outside Home signal. In case of departure signal before changing route, the SM shall taken action as per SR-3.36.02 (b) (i) & (ii).

6.7 TRAINS RUNNING THROUGH: -The procedure detailed in Para 6.3, 6.6 above and General Rules 3.40, 4.17, 4.42 and Subsidiary Rules 3.36.04 (b) (i) 3.42.02(a) (iv), shall be observed.

The SM is responsible to observe/watch the condition of the vehicles on a train and shall wave green hand signal horizontally as per Subsidiary Rule 4.42.02 until anything wrong is noticed on train. For this purpose the SM on duty shall stand in such a position that a clear view of the passing train is seen by him and that his hand signals can clearly be seen by the Loco Pilot and Guard of the train. He shall depute his points man with hand signal to the other side of the passing train who shall exhibit hand danger signal to draw the attention of the guard/Loco Pilot of the train in case of observing any unsafe condition/abnormalities of the train. He shall also report to the SM on duty for taking further suitable action in terms of SR 4.42.02(d).

The Station Master on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General Rules 4.17 and Subsidiary Rules 4.17.02.

6.8 **WORKING IN CASE OF FAILURE:** - In case of failure of S&T equipments, on duty Station Master shall work in accordance to GR 3.68, 3.69 and 3.70 and SRs thereto.

6.8.1 **PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF A SIGNAL & INTERLOCKING INSTALLATION:** -Whenever there is a failure of points, signals, track circuits or any other interlocking gear at the station that includes level crossing gate (s) if any etc. the SM on duty shall follow the procedure detailed in GR 3.68, 3.72, 3.74 and SR thereto. In case of defective approach signals, the trains will be piloted in vide SR 3.69.02, 3.69.03 & 3.69.05. In case of defective departure signals, trains will be piloted out vide GR 3.70 & SR 3.70.01. & 3.70.02.

6.8.2 **TRACK CIRCUIT:-**

In the event of failure of track circuit in the yard trains shall be admitted in to yard after piloting 'IN' before piloting a train into the yard the clearance of the track must be ensured by physical verification

6.8.3 **AXLE COUNTER:-**

In the event of failure of axle counter Block Instrument of concerned block section, SM on duty shall initiate resetting of axle counter after ensuring the complete arrival of the train by SM of other end Station. After resetting, the first train will be piloted 'OUT' to the concerned Block Section for normalizing the system of working. In case failure of Axle Counter Block Instrument of concerned block section shall be suspended. Detail operations involved in resetting of axle counter are given in Appendix-'B'.

6.8.4 **DEFECTIVE SIGNALS:-**

When signals become defective, the procedure laid down in GR & SR shall be followed. A signal in the OFF position is the final indication that the points are correctly set for the route for which it applies and if it is found impossible to take OFF a signal, the setting of points on the route to which it applies shall be inspected by the Station Master on duty before the signal is declared as defective irrespective of what is indicated by the position of the route, [Refer GR 3.52 to 3.56, 3.68, 3.71, 3.80 and SR 3.68.01 (c)].

In case of disconnection of signal and interlocking for repairs and maintenance, procedure laid down in GR and relevant SRs shall be followed. In the event of signal showing no lights, Station Master on duty shall before giving line clear initiate action

in accordance with the procedure prescribed in GR and the relevant SRs. [Refer GR 3.51, 3.69, 3.49 (4), 3.68 to 3.77]

6.8.5 BLOCK INSTRUMENT:-

In the event of partial/total failure of Block Instruments, the concerned block instrument shall be suspended till its rectification, trains shall worked as per SR 6.02.06 & Chapter –III Part of BWM.

Both UP & DN Advance Starter signals are electrically interlocked with respective block instruments so that the same cannot be taken 'OFF' unless the concerned block instrument is in line clear position (TGT). When the block instrument is suspended in 'Line Clear' position, the concerned Advance Starter must also be treated as suspended. When the Block Instruments is under suspension, the authority to proceed will be paper line clear ticket.

UP & DN Home Signals are electrically interlocked with respective Block Instruments can be normalized from 'TRAIN COMING FROM' to 'LINE CLOSED' position, when the corresponding Home Signals are in 'ON' position. However, the Home Signals can be taken 'OFF' in case of failure of the Block Instrument.

6.8.6 DEFFECTIVE INTERLOCKING:-

In the event of interlocking becoming defective, the points will be treated as defective. The SM on duty on receipt of this information will immediately introduce non-interlocking system of working at the station. Trains will be Piloted IN or OUT as the case may be. The SM on duty shall be responsible for correct setting, clamping and padlocking of points for admission of train.

6.8.7 DEFFECTIVE/DAMAGED POINTS:-

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. 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. The responsibility of correct setting, clamping and padlocking of points for admission & dispatch of trains at the station rests with SM on duty himself.

6.8.8 RECEPTION OF A TRAIN ON BLOCKED LINE:-

Whenever trains are to be admitted on an obstructed line, the Calling-on signal may be taken OFF. If calling-on signal failed, then the SM on duty shall authorize the on duty TPM with form T/509 indicating the reason for such admission the line number and the nature of obstruction on that line.

Before handing over the authority the SM on duty shall ensure the correct setting clamping and padlocking of both facing and trailing end of the concerned route vide SR 3.69.03. A stop hand signal shall be exhibited by the SM on duty at a distance of not less 45mts. from the point of obstruction to indicate to the Driver as to where the train shall be brought to a stand.

6.8.9 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:-

However, before declaring a signal is defective, the setting of the point on the route to which it applies shall be inspected by the Station Superintendent/Station Master irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.70 & SR 3.77.01(b)]. Initiate action in accordance with the procedure prescribed in GR and relevant Subsidiary Rules there to. [Refer GR 3.49 (4) and 3.68, 3.77]

6.8.10. ISSUE OF CAUTION ORDER: - Whenever in consequence of the line being under repair or for any other reason special precautions are necessary, a caution order detailing the kilometers and speed at which a train shall travel and the reasons for taking such precautions shall be handed over to the driver in terms of GR 4.09 and

SR thereto.

6.9 **WORKING OF MOTOR TROLLEYS/MATERIAL LORRIES ETC : -**

- (a) Motor Trolleys are run in accordance with Subsidiary Rules 15.25.03 to 15.25.07.
- (b) Material Trolleys will work in accordance with Subsidiary Rules 15.27.05 to 15.27.08
- (c) Rail Dolleys will work in accordance with Subsidiary Rules 15.27.10.

The following precautions must be taken:

- 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.
- ii) Motor trolleys / tower wagons / material Lorries are not likely to actuate the axle counter correctly. When they are to run over the sections split by axle counters, the whole section to be treated as one and next train to be started after the first train has arrived complete.
- iii) 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 or a motor trolley.

7.0 **BLOCKING OF LINES:** - Whenever a running line is blocked either by loose vehicles or by a stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. 'Line Block' is to activated by VDU BY SM on duty following procedures as laid down in para No.6.2.2. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer SR 3.36.3(b), GR 5.23, SR 5.04.01 (a) and SR 5.23.01(a)]

7.1 **USE OF REMINDER COLLARS:** - Line block feature identical to conventional panel is incorporated in VDU panel for blocking of a running line which is blocked either by loose vehicles or by stabling of a train or by a train which is to cross or give precedence to another train. For blocking/unblocking of line, SM on duty has to click the mouse near the route icon provided on running line and a popup menu Blocking & Unblocking will appear. By selecting the blocking option the said line is blocked and reception signal pertaining to that line cannot be taken OFF.

For unblocking the line SM on duty has to select the unblocking option from popup menu. Similarly Blocking/Unblocking feature is provided near the advanced starter signals of both end of the station for Blocking/Unblocking the block section. By selecting the blocking option no train can be dispatched to the blocked section.

7.2 **SECURING OF VEHICLES:** - As far as practicable loose vehicles shall not be allowed to stand on the running lines. However, under unavoidable circumstances, if it is necessary to detach vehicles from a train or to stable a train and leave them standing on running line, SS/SM on duty shall be responsible to secure vehicles/stable loads in accordance with GR 5.23 and SR 5.23.01 to prevent rolling down of vehicles and arrest obstruction of fouling.

NOTE: Special care shall be taken to secure special type vehicles fitted with roller bearings while standing in siding or on running lines. A stabled load register is to be maintained shift wise.

7.3 **ALTERING OF POINTS TO A CLEAR LINE WHEN RUNNING LINE IS BLOCKED:-**

- a) When a running line is blocked by stable load e.g., wagons, vehicles or by a train which is to cross or give precedence to another train or immediately after 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 another movement is required to be performed in that direction on the same line.
- b) If all the lines at a station happens to be blocked when line clear has been granted to a train, the points should be set for the line occupied by a stable load or a goods train in that order so that in a case of mishap, the chances of casualties are minimized.

- c) In case all the lines are occupied by passenger carrying trains, points should be set for a loop line, to negotiate which the speed of the incoming train would be reduced, which in turn would minimize the consequences of casualties. While doing so, points shall be set for a loop, occupied by a train, if any, whose engine is facing the direction of approach of the incoming train rather than a loop line, occupied by a train whose passenger coach will, in case of collision, receive the impact.

7.4 **LOADING AND UNLOADING OF VEHICLES ON RUNNING LINE:-**

Loading and unloading from vehicles on running line is prohibited unless permitted by Sr. DOM / SBP vide SR 5.19.01.

At stations where loading and unloading of goods is permitted whether full rake or part thereof, the station master shall ensure that no goods are left fouling any line before and after clearance of the rake from the line. The railway servant supervising loading and unloading shall also ensure that consignment does not foul any line vide SR 5.19.001 (a).

If the stations are on gradients, the rake should be properly secured as detailed in SR 5.23.01.

During the time of loading / unloading, the station master shall ensure isolation of the lines(s) as detailed in SR 3.51.06.

8.0 **SHUNTING: -**

8.1 **GENERAL PRECAUTIONS: -**

Shunting shall be performed in terms of General Rules 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16, 5.17, 5.19, 5.20 to 5.23, 8.09, 8.10, 8.13, 8.14, 8.15 and Subsidiary Rules thereto. The Guard/Asst. Guard/SS/SM/TPM on duty is authorized to supervise shunting operation. During non-signal movement the authority for shunting is shunting order (T-806) to be issued by the SM on duty, which shall be withdrawn after completion of shunting, or in need when train movement is involved to receive/dispatch trains on the adjacent line.

The same shall be cancelled and pasted to its record foil. While issuing shunting authority to train staff clear instructions and limit up to which shunting is to be performed should be correctly mentioned. The staff supervising shunting shall ensure correct setting of points, clamping and pad locking of points, if necessary, normally back shunt signals shall be used for shunting operation.

8.2 **SHUNTING IN FACE OF AN APPROACHING TRAIN:**

Shunting in the face of an approach train is strictly prohibited.

8.3 **PROHIBITION OF SHUNTING ANY SPECIAL FEATURES:**

- (i) Hand, Fly/loose shunting is prohibited at both ends of the yard.
- (ii) SR 4.48.01 is applicable to this station.

8.4 **SHUNTING ON SINGLE LINE:**

- (i) If the necessary signals are kept at 'ON' shunting may be carried on within the station section, provided the block section is clear of approaching train.
- (ii) The line outside the station section and up to the Home Signal shall not be obstructed unless a Railway Servant specially appointed on his behalf by the Station Master on duty who is the in-charge of the operations and unless the block section into which the shunting is to take place is clear of approaching train and all relevant & necessary signals are kept at "ON" position (GR 8.12).
- (iii) The line outside the first stop signal shall not be obstructed unless line has been blocked back.
- (iv) **SHUNTING WITHIN STATION SECTION:**
If the necessary shunting signals are kept at 'ON' shunting may be carried on within the station section Vide GR 8.05[2].

- (v) **DURING FAILURE OF BLOCK INSTRUMENT:-**The SM on duty shall ensure that there is no train in the block section and the last train has arrived complete clearing the fouling mark, while conducting shunting at the end of the block section of which

block instrument has been suspended and all necessary precautions have been taken as per rules laid down in GR..

8.5 SHUNTING ON DOUBLE LINE:- N / A

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

While performing shunting in the Track Machine siding, Aspect of shunt signals is to be followed. For any non signal movement, it should be authorized by issuing T/806 clearly mentioning the limit up to which shunting is to be permitted as also the lines occupied in shunting. The relevant provisions of GR 5.14 and SRs thereto shall be meticulously followed.

9.0 ABNORMAL CONDITIONS:-

9.1(A) THE RULES TO BE OBSERVED IN THE EVENT OF ABNORMAL CONDITION: -

[i] **PARTIAL FAILURE OF COMMUNICATION: -** In the event of suspension of Block Instrument & during partial failure of other available means of communications, trains will be worked in terms of Subsidiary Rule 6.02.06 and Chapter-III & Chapter VI of Block Working manual.

[ii] **THE AUTHORITY TO PROCEED IN THE OCCUPIED BLOCK SECTION IN CASE OF OBSTRUCTION OF LINE OR ACCIDENT: -** In case, it is necessary to allow a train into an obstructed block section due to engine failure, obstruction or accident, a block ticket shall be issued in terms of SR 6.02.05 Absolute Block System on the affected block section shall be suspended and concurrence of the SM at other end shall be obtained and recorded in caution order register, train signal register and SM's diary.

On the block ticket (T/A 602) it shall be mentioned in detail the place of obstruction i.e. Engine Km., B/Van Km., whether the train is to return or to wait at the place of obstruction for the arrival of another following train(s) or to proceed to next station and to obey the site officer instructions. A caution order shall be issued restricting the speed to 15 KMPH in day light hours when the visibility is clear and 10 KMPH at night or whenever view for 800 Mtrs. is not clear. On arrival at the station the block ticket shall be collected with necessary endorsement from Loco Pilot/Guard and cancelled and pasted to its record foil or shall be sent to the issuing station for cancellation.

In case of accident/engineering block, an assurance from SE (P.WAY) concerned shall be obtained that the line is safe for movement of trains before resumption of normal working. When the obstruction is removed and assurance in writing is obtained from SE (P.WAY) concerned or Guard/Loco Pilot, the SM on duty may resume normal working after exchanging proper messages supported by Private Number.

[iii] **TRAINS DELAYED IN BLOCK SECTION:-**

If a train carrying passenger does not arrive within 10 minutes or if a goods train does not arrive within 20 minutes after allowing for its normal running time from the station in rear, the SM at the station in advance shall immediately advise the station in rear and the control of this fact. There after SMs at either end of the Block section shall send one Railway servant into block section to collect the whereabouts of train, condition of train and nature of assistance, if any, required. SM on duty shall collect the full particulars from railway servant so deputed and intimate the same to SM at other of block section and to the section control simultaneously for taking action according to circumstances of the case. [Refer GR 6.04 & SRs thereto].

[iv] **FAILURE/PASSING OF INTERMEDIATE BLOCK STOP SIGNAL AT ON: - NA**

[v] **FAILURE OF LVCD AXLE COUNTER: -**

Details of the operation are given in Appendix 'B' of SWR.

[VI] **FAILURE OF MTRC:-** Not Applicable.

- (b) **PROCEDURE FOR EMERGENCY OPERATION OF POINTS BY CRANK HANDLE: -**
Details of the operation are given in Appendix 'B' of SWR.
- (c) **CERTIFICATION OF CLEARANCE OF TRACK BEFORE CALLING-ON SIGNAL IS OPERATED:-** To take 'OFF' a calling on signal during failure of track circuit on the route, the clearance of the track over which the train would pass must be physically checked by the SS/SM on duty. After satisfying himself SS/SM on duty shall initiate the calling on signal operation. The procedure shall be strictly followed.
- (d) **REPORTING FAILURE OF POINTS, TRACK CIRCUIT/AXLE COUNTER AND INTERLOCKING: -** In case of failure of any interlocking gear at the station, the failure report should be communicated by the SM on duty to the sectional Maintainer, the JE/SE/SSE (SIG) of the Section and others through a memo as per SR 3.68.04 and shall document all such transactions.

9.1(B) TOTAL FAILURE OF COMMUNICATION BICHHUPALI-BALANGIR & BICHHUPALI- JHARTARABHA (SINGLE LINE):-

In the event of total interruption of communication occurring between BICHHUPALI-BALANGIR & BICHHUPALI- JHARTARABHA, i.e when line clear cannot be obtained by one of the following means stated in order of preference viz,

- a. Block Instruments, Track Circuits or Axle Counters.
- b. Telephone attached to the Block Instruments
- c. Station to Station fixed telephones whenever available
- d. Fixed telephone such as Railway auto telephone & BSNL phone
- e. Control telephone
- f. VHF sets

and action shall be taken as per SR 6.02.04. The train which is to be dispatched to the affected section will be stopped and the Driver and Guard of the train shall be informed about the fact.

Before dispatching the light engine /main engine/motor trolley /Tower wagon/Trolley /Cycle trolley/Moped trolley/Diesel car/rail motor car/EMU rake, the SM on duty shall hand over a

Authority in the prescribed form (T/B 602) for opening of communication during total failure interruption of communication on Single Line Section to the driver /motorman/Guard/SM who is being sent to open communication, which includes.

- (i) An authority to proceed without "Line Clear".
- (ii) A Caution Order restricting to speed of the train to 15Kmph by day when the view ahead is clear and 10 Kmph during night or when view ahead is obstructed in addition to other speed restrictions in force (T/B 409).
- (iii) Authority to pass the Last Stop Signal at 'ON' position.
- (iv) A "Line Clear" enquiry message (T/E 602) asking "Line Clear" for the awaiting train (T/F 602).
- (v) A conditional "Line Clear" message for the light engine to return with or without a train attached, supported by a Private Number.

On arrival of the engine at the next station, the conditional line clear message and enquiry message shall be collected by the Station Master on duty who shall prepare a conditional line clear ticket (T/G 602 or T/H 602) for engine to return either light or a train attached to it and conditional line clear reply message for the enquiry message, giving "Line clear" for the train waiting at other end shall be handed over to the Driver of the light engine. On return trip, the Driver will come on booked speed subject to any other speed restrictions in force.

As soon as any one of the means of communication has been restored, the conditional 'Line clear' working of trains shall be cancelled when there is no train in the affected block section and messages shall be exchanged supported by Private Number. The Section Controller shall be informed.

9.1.(C) TOTAL FAILURE OF COMMUNICATION BETWEEN (DOUBLE LINE SECTION):- NA**9.2 TEMPORARY SINGLE LINE WORKING ON A DOUBLE LINE SECTION:- NA****9.3 THE AUTHORITY TO PROCEED IN OCCUPIED BLOCK SECTION IN CASE OF OBSTRUCTION ON LINE OR ACCIDENT:-**

Rules and regulations for working of trains on an obstructed line in case of obstruction or Accident on the Authority of Block Ticket (T/A-602), when communications are available shall be followed in accordance with the provisions which is summarized as follows [Refer SR 6.02.05]

After sending a train on block ticket, a following train shall not be dispatched in the same direction unless:

- a) The previous Block ticket is collected and cancelled or
- b) Necessary endorsement is given on the previous block ticket with the advise to wait at the site for a next train to follow or
- c) The previous train has met with an accident or has been disabled or
- d) The Block ticket has been cancelled from the driver of the previous train by the official-in-charge at the site and kept in the personal custody & shall be kept until the arrival of the next train and such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.
- e) SM will suspend the Absolute Block System of working and both SM's concerned should arrange for running of trains on the authority of Block Ticket.
- f) SM at the dispatching end will hand over to the driver the block ticket as the authority which shall include:
 - i) Caution Order: Existing Speed Restrictions shall be indicated in the Caution order portion. The Speed Restriction to 15 KMPH during clear visibility and 10 KMPH when visibility is obstructed shall be clearly indicated.
 - ii) An authority to pass the Stop Signal at "ON" position
- g) Before resumption of normal working a message between the SMs of the concerned stations shall be exchanged with private number. [Ref SR 6.02.05 (d) (vi)]
The Block Ticket so issued must be collected by SM of either end with a certificate about the complete arrival of train with its time and the section is clear of all obstructions from Driver/Guard of the train & cancelled.

9.4 TRAINS DELAYED IN BLOCK SECTIONS:

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

10. VISIBILITY TEST OBJECT: -

- i) V.T.O. post / Authorized substitutes earmarked to work as V.T.O. Post. – The lights of Line No.1 starters on the both ends are earmarked to serve as VISIBILITY TEST OBJECT vide GR 3.61 (2) (b) (ii).
- ii) Distance between CSB and V. T. O. post: - 180 Mtrs.
- iii) Station Master on duty will test the visibility during thick and foggy weather and if visibility is impaired, he will work as per GR 3.61 and SRs thereto.

11. ESSENTIAL EQUIPMENTS AT THE STATION: - This is mentioned in the Appendix 'E' of the SWR. Essential equipments shall be kept ready on hand in good condition with necessary relief stock.**12. FOG SIGNAL MEN NOMINATED TO BE CALLED IN CASE OF FOG:** In order to indicate to the Drivers of approaching trains the location of signal during thick, foggy and tempestuous weather or during dust storm, the SS/SM on duty shall arrange for fog signalling in terms of General Rule 3.61 and Subsidiary Rules thereto. Assurance of the staff shall be taken in the Fog Signal Register in the month of October every year as token of their having knowledge of Fog Signalling Rules and their use.

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.

13. **STATION DETONATOR REGISTER (OPT/124)**

A Register regarding detonator is maintained at the station.

(a) **INSTRUCTIONS:**

This register contains the following parts.

Part. - I: Particulars of fog signalmen 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.

CERTIFICATE:-

"NOTHING IN THESE RULES SHALL BE READ AS CANCELLING, AMENDING AND MODIFYING ANY OF THE GENERAL RULES, SUBSIDIARY RULES, BLOCK WORKING MANUAL AND OPERATING MANUAL. THESE RULES ENCEFORTH CANCEL ALL PREVIOUS STATION WORKING RULES OF **BICHHUPALI** STATION".

APPENDICES

APPENDIX 'A'	--	WORKING OF L.C. GATE.
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'	--	ESSENTIAL EQUIPMENTS OF STATION.
APPENDIX 'F'	--	RULES FOR WORKING OF DK STATIONS, PASSENGERS HALTS, IBH, IBS AND OUTLYING SIDINGS.
APPENDIX 'G'	--	RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS.

APPENDIX 'A'

DETAILS OF LEVEL CROSSING GATES TOGETHER WITH INSTRUCTIONS TO THE OPERATING STAFF (INCLUDING LEVEL CROSSING GATE MEN) ABOUT THEIR NORMAL WORKING, THEIR MAINTENANCE AND THEIR WORKING INCASE OF FAILURES IN EMERGENCIES WITH SPECIAL PROVISIONS, IF ANY.

-NIL-

APPENDIX – 'B'

DETAILS OF SIGNALLING AND INTERLOCKING INSTALLATIONS, INSTRUCTIONS FOR WORKING THEM NORMALLY AND IN EMERGENCIES ETC. INCLUDING POWER SUPPLY ARRANGEMENTS.

- 1.0 BRIEF DESCRIPTION OF THE SIGNALLING & INTERLOCKING INSTALLATION:**
This is a 'B' Class Station with Standard II (R) Interlocking. This station is provided with route setting type Electronic Interlocking system having points, Signals, track circuits and other signaling gears. The station is equipped with Multiple Aspect Colour Light Signalling. All points and signals etc. are power operated through central Visual Display Unit (VDU) with a stand by installed in the SMs office.
- 2.0 DESCRIPTION OF OPERATOR CONSOLE CUM VISUAL DISPLAY UNIT:**
The operator console cum Visual Display Unit (VDU) is provided for operation of Signals, Points, Crank Handles, Sidings & other controls etc. A Mimic yard diagram based on approved SI Plan 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 (color monitor), 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 diagram on the VDU and that is 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, etc.) can be executed through selecting the required operation by clicking the Left icon of the pointing device (mouse) on the desired function.
- 2.2** An additional VDU connected with a computer is provided as standby arrangement in case 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 circuits, Axle Counters, L.C. Gate, siding 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.

S N	ICONS		FUNCTIONS	REMARKS
1	SM's Key	Yellow light when key is 'IN'	Ensure operation of VDU by authorized person	Protected by pass word
2	---	Emergency Route release – UP & DN	Flashing indication appears when Emergency route release operation is initiated.	
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'	Ensure Emergency point operation by authorized person	For each operation concerned counter shall register one count higher.

5	---	System Indication ON/OFF	Indicate System 'A' or 'B' is in working mode	
S N	ICONS		FUNCTIONS	REMARKS
6	Point Failure Ack. icon	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.
7	Signal Failure Ack. icon	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.
8	CH-1 to CH-3	Yellow lamp indicates key is '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.	---
9	'DN Train Entering Section' muting	Yellow acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	
10	'UP Train Entering Section' muting	Yellow acknowledged	On getting alarm/buzzer SM shall left click on the button icon to acknowledge it.	
11	UP Block Release	Yellow- Prepared for Block release.	On getting Indication SM shall left click on the button icon which shall release Block Handle.	After complete arrival of train this will be activated.
12	DN Block Release	Yellow- Prepared for Block release.		
13	L.C. Gate Control	---	---	---
14	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.	
15	Line Block	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 blocked 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 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 showing that the system is in power off condition.
- 3.2 **OPERATION PROCEDURE OF SS/SM's 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 & 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 operation of all the controls e.g., Signals, points, L.C. gate and Crank handle, 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 & PASSWORD and click the OK button. Now the operating VDU is ready for use & entire yard can be controlled from the VDU. Similarly, Station Master is to select the "KEY OUT" to prevent the unauthorized operation.

3.3 **DESCRIPTION OF CROSS OVERS/DS POINTS:**

S N	Point No.	Description
1	31	Crossover point between Main Line no.2 (L3) at JHARTARABHA end with Over run line.
2	32	Crossover point between Main Line no.1 (L1) at BALANGIR end with Over run line.
3	33	Crossover point between Main Line & Loop line no.1 (L1) at JHARTARABHA end with Over run line.
4	34	Crossover point between Main Line & Loop line no.2 (L3) at BALANGIR end with Over run line.
5	35	DS. Point to TM siding from line No.1 (L1) at JHARTARABHA end

- 3.3.1 **OPERATION AND INDICATION 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.

POINT 31
Normal
Reverse
Emergency normal
Emergency Reverse

3.3.2 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.

3.3.3 NORMAL TO REVERSE OPERATION: -

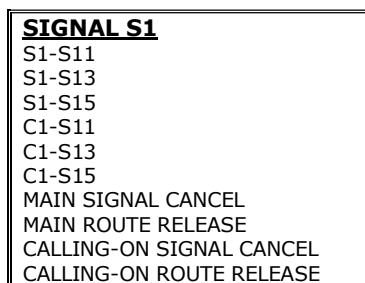
Track the pointer to REVERSE menu and click. A Reverse flashing indication will appear and the indication will be steady after the point is set to Reverse.

3.3.4 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 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 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 are satisfied. Likewise, 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 start 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 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 route 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 60 seconds provided other condition 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, after putting CH 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:** Not Applicable.

- 3.7 **OVER TIME RELEASE (WHITE LIGHT):**

Separate indications (white lights) for each overlap are 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 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 OPERATION:-**

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. Clicking 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 120sec & the Emergency route release indication (UP/DN as the case may be) will flash for the entire time interval. After the completion of 120 seconds, the locked route will be released. This action will be recorded in a counter. The counter number will increase to next higher number for each such operation & 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 number in a register.
- 4.2 **EMERGENCY OPERATION OF POINTS:** When the point zone Track Circuits 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 obstructions.

4.2.1 EMERGENCY 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. 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 number will increase by next number for each such operation 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 number in a register.

After the completion of the Emergency point operation, Key to be 'KEY OUT' by clicking 'KEY OUY' 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, 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. Emergency Reverse menu is 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 number will increase by next number for each & 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 number in a register and SM's diary.

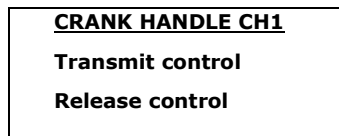
After the completion of the Emergency point operation, Key to be 'KEY OUT' by clicking 'KEY OUY' menu. The user name and password is to be given for "KEY OUT" also.

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 the 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 number will increase by next number for each and every such action and also, this number should be recorded by the SM on duty who shall the record details of the Emergency Crank Handle Operation along with the latest counter number in the counter register.

One Emergency key provided at SM's table to release all crank handles of the station during failure of both the VDU. To release the crank handle key, SM should turn the

Emergency key. After the completion of 120 seconds the crank handle will be released.

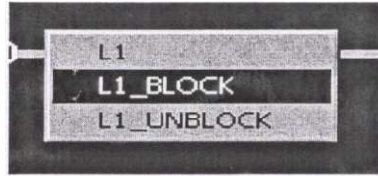
4.3 **EMERGENCY GATE OPERATION:** NA

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 color indication will be displayed after the successful application of such a blocking process on the VDU.



4.4.2 **LINE UNBLOCK:**

To release the set of block of any particular line, the SM should select "L. No.-----UNBLOCK" command using the left mouse button icon. 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.

5.0 **PROCEDURE FOR RESETTING OPERATION OF LVCD (DIGITAL) AXLE COUNTER IN SECTION BICHHUPALI-BALANGIR AND BICHHUPALI-JHARTARABHA.**

5.1 Digital Axle Counters have been provided on both sections between BICHHUPALI-BALANGIR AND BICHHUPALI-JHARTARABHA block section. The occupation and clearance of the axle counter section are indicated on VDU by RED and 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 shall be performed by the SM on duty.

The receiving station shall inform the sending station as to whether the last train that entered into the section has arrived or not, and arrived fully shall so intimate authenticated by exchanging private number with the sending station before resorting to resetting operation.

As digital Axle Counters are provided as LVCD in block section, resetting is to be done by both of sending end and receiving end individually.

The status of the section LVCD i.e. Clear (GREEN), occupied (RED), preparatory reset (miniature GREEN) and power on indications (YELLOW) are provided in the reset box.

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

- a. Insert SM's LV reset key, turn right and keep pressed.
- b. Press LV reset button provided on the panel.
- c. Release SM's LV reset key and reset button.
- d. Turn left the SM's LV reset key and remove it.
- e. The system obtains preparatory reset state and preparatory reset indication (miniature Green) glows on the panel.
- f. The counter reading increases by one count after a gap of 5 seconds approximately.

- g. The counter reading should be recorded.
- h. First train is to be piloted out into the section to make the system normal.

The SM on duty shall record in his Train Signal Register, Station Diary and register meant for it the details of resetting operation giving details of train number, time, Private Number exchanged with SM in rear and reasons for the resetting operation. If the axle counters functioning properly now, then Block Section cleared indication 'GREEN' will appear on the panel and the concerned Block working will be normalized.

If the axle counter section indication does not appear 'Green' and continues to show 'RED' indication, the concerned Block Instrument of the section shall remain suspended and failure intimation to be given to sectional signal Maintainer/JE/SE (Signal) for early rectification.

- 6.0 **MAIN SIGNAL LAMP FAILURE INDICATION AND BUZZER ACKNOWLEDGMENT:**
LED Signal lamps are provided for main signals at this station. In case failure of LED signals 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 LED lamp is replaced by a new lamp. For rectification of failure SM on duty should inform the concerned S&T staff.

- 6.1 **POINT FAILURE INDICATION (RED), POINT FAILURE BUZZER AND 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 icon 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 icon will disappear.

- 6.2 **SHOWING OF COUNTERS:**
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.
- When the pointing device is placed any one of the menu the latest counter number will pop-up on VDU.

- 7.0 **TRACK CIRCUITS:**
All lines are track circuited from Home signal to Advance starter signals at either direction of the yard. Approach Track Circuit (5 Rail lengths) for Calling-on signal are also provided in rear of the Home signals in both directions. In addition there are (5 Rail lengths) track circuits beyond Advance starter Signals in both the directions for replacement of Last Stop Signal. Indications for above track circuits are available on the 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 by observing the track indications of the track on either side of the crossovers by positively checking the 'entrance' and 'exit' track circuits are showing occupancy or clearance in accordance with the train movement.

- 8.0 **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 cannot be taken 'OFF' for admission of train on blocked line, for shunting purpose and due to failure of main signal due to any other reason.

To take OFF Calling-on signal the train must come to a stop at the foot of the home signal, occupying the track circuit (1AT, 2AT etc.) 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 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 60 seconds, the calling on signal clears. Calling on Signal below Home Signal white light will glow at the concerned Calling on signal on the VDU.

- 9.0 **RELEASE / CANCELLATION OF ROUTE:** - Normally when a train is received on any route and 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 the SM on duty intends to cancel the route set by him, shall follow procedure of cancellation of route described in para 4.1 of AAPENDIX-B above.

NOTE:

UP and DN Calling On signals are to be manually cancelled after the passage of the train to release the route.

- 9.1 **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.

9.2 INTERLOCKING OF SIGNALS:

DN Advanced starter signal is interlocked with block instrument in section BICHHUPALI-JHARTARABHA and UP Advance starter signal is interlocked with block instrument in section BICHHUPALI-BALANGIR 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.

9.3 **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 3.69.06].

9.5 PILOTING OF TRAINS - OUT OF STATION YARD:

When the starter signal has become defective, the Station Master on duty shall advise the 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) to the 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].

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]. If out going route is displayed on VDU, then clamping and padlocking is not required as per SR 3.69.06.

9.5 **SHUNTING:**

Caution aspect of starter signals can be used for forward shunting up to Advance Starter signal. For back shunting individual shunt signals No. SH-3 and SH-4 provided at both ends of the yard shall be used. For taking OFF Shunt signals refer Para No. 3.4.2 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 signaling and interlocking system at the station. Key for Crank handle keys 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 key 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 to 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 long duration exceeding 10 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 maintainer/SSE(Signal) to be informed for rectification of failure.
- 13 **LOCKING OF RELAY ROOM:** - Refer para No 4.2 of main SWR.
- 14 **MAINTENANCE OF S&T INSTALLATION & 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 conform 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.

During checking/ testing or during day to day as well as regular maintenance of S&T gears, SM on duty shall co-operate with S&T staff for safe and satisfactory maintenance.
- 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 SE(Signal) of the Section and others through a memo as per GR & SR 3.51.04 and 3.68.04 and the document of all such transactions.
- 16 **INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:**
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.

- 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 a 'Reconnection Memo' detailing the rectification. Thereafter, the SM on duty shall personally check the defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective 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 & Telecom department should preplan these works. Field staff and the inspector of the section should give the Station Master in writing 'Advance Intimation' about this work in terms of GR & SR 15.08.01.
- 19 **EMERGENCIES:**
Notwithstanding, anything contained in the aforesaid paras, as when equipment is found to be defective and unsafe for passage of trains, the Signal & Telecom Staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of 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 precautions treating the S&T installation as defective and pass trains over the affected interlocking equipment according to extant instructions as contained in GR & SR 3.77.
- 20 **PROCEDURE TO BE FOLLOWED IN THE CASE OF FAILURE OF SIGNALS, POINTS AND USE OF EMERGENCY CRANK HANDLE:**
- 20.1 Whenever a signal or a point becomes defective, any movement over the points on the running lines shall be made after clamping and padlocking of both facing and trailing points on the line by Station Master on duty personally for all trains at the station.
- 20.2 In case of failure of a signal or a point and in case the point cannot be operated from the VDU, emergency crank handle, which is interlocked with the system has to be extracted and the following procedure has to be observed.
- 20.3 One common emergency crank handle is provided for all motor operated points of a group. This is mechanically riveted to the key of EKT. This key along with Crank Handle can be released from the EKT by following procedure vide 3.5 of APPENDIX-B. Station Master on duty in case of Point Motor failure will take out the Crank Handle key set the Point manually by inserting Crank Handle on the Motor.
- 20.4 When the crank handle key is removed from EKT for operation of the defective motor operated points, the responsibility for its safe custody rests with the Station Master on duty, till it is replaced back in EKT & sealed by JE/Signal Maintainer.
- 20.5 The case of failure of motor operated points should be promptly reported to the concerned SE (Sig.)/ Signal maintainer for immediate rectification.
- 20.6 Whenever an Emergency Crank Handle is required to be used by a signal official for maintenance work or attending a failure, the signal official will give a disconnection memo to the SM on duty after making necessary entries in the Emergency Crank Handle Register, The SM on duty will obtain the acknowledgement of the signal official in the Emergency Crank Handle Register and then handover to him the Emergency Crank Handle for the point concerned. All the points will be treated as defective till the Emergency Crank Handle is returned back to the SM on duty.
- 20.7 Before parting with the Emergency Crank Handle either for attending failures or for maintenance work by Signal maintenance officials, the SM 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 & the SM on duty is responsible for introduction of non-interlocked working and the trains will be piloted 'IN' and 'OUT' duly clamping and padlocking the points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SRs. The SM on duty will be personally responsible for correct setting, clamping and padlocking of points for reception or dispatch of all trains.

- 20.8 The Emergency Crank Handle Register is to be maintained by the Station Master on duty wherein the particulars of the usage of the Emergency Crank Handle must be recorded as per opening manual.

21 INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

21.1 INTERLOCKING WITH HOME SIGNALS:

The UP Home Signal is electrically interlocked with the TLBI of section BICHHUPALLI-BALANGIR and DN Home Signal is also electrically interlocked with TLBI of BICHHUPALLI-JHARTARABHA section, so that before the handle of Block Instrument can be turned from TRAIN COMING FROM position to LINE CLOSED position, UP or DN Home Signal must be in their NORMAL position.

- 21.2 The DN Advance Starter signal is controlled and interlocked with Block Instrument of section between BICHHUPALLI-JHARTARABHA & UP Advance Starter Signal is interlocked with Block Instrument of section BICHHUPALLI-BALANGIR so that this signal cannot Taken OFF until the handle of the concerned Block Instrument is in 'TRAIN GOING TO' position.

22.3 SUSPENSION OF LAST STOP SIGNALS:

When the Block instrument of section BICHHUPALLI-BALANGIR & BICHHUPALLI-JHARTARABHA is suspended with its handle in any position whatever reason, the concerned Last Stop Signal controlled by the Block Instrument must be treated as suspended and trains shall be PLCT towards BICHHUPALLI-BALANGIR & BICHHUPALLI-JHARTARABHA sections.

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

- 23.1 Digital Axle Counters have been provided on BICHHUPALLI-BALANGIR & BICHHUPALLI-JHARTARABHA block section.
- 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, last stop 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 such in case, resetting of Last Vehicle Checking Device is to be resorted to.
- 23.5 No train shall be allowed on signal to leave a station in 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 TELECOMMUNICATIONS: -

- (i) Telephone attached with Token Less Block Instrument of BICHHUPALLI-BALANGIR & BICHHUPALLI-JHARTARABHA sections.
- (ii) Station to Station fixed telephone (Hot line) has been provided
- (iii) Station has been provided with Auto telephone connected with Railway Exchange.
- (iv) BSNL telephone has been provided.
- (v) The station is connected to SBP control circuit by a control telephone.
- (vi) Station to station 25 Watt VHF communication has been provided
- (vii) Telephone has been provided between Station and both end crank handle

locations.

(viii) Telephone has been provided between Station Master & TPC.

NOTE:

- (i) For obtaining line clear, VHF should be used as last alternative and not as a sole communication.
- (ii) VHF Walkie Talkie sets should not be used for unnecessary discussion with Loco Pilots, Guards or any other staff.
- (iii) The on duty SM shall use the above electrical communication instruments stated in Para-23 from item No. (i) to (vi) strictly in order of preference for obtaining/granting line clear vide SR 14.01.01. In case of failure of any of the above means of communication the SM on duty shall work vide SR 6.02.06.

25.0 FAILURE OF COMMUNICATION / FAILURE OF BLOCK INSTRUMENTS:

- 1) In the event of failure/suspension of Block instrument, Track circuit & Axle Counters 'Line Clear' shall be obtained over Telephone attached to the Block instrument or station to station telephone by exchanging Identification Number and supported by Private Number as per SR 6.02.06 (a) and Chapter-III Part-I of Block Working Manual.
- 2) In the event of failure/suspension of Block instrument and Block Telephone attached to the Block instruments, or the station to station fixed telephone 'Line Clear' shall be obtained on Railway auto phone or BSNL phone by exchanging Identification Number supported by private number vide SR 6.02.06 (1) (b) and Chapter-III Part-I of Block Working Manual.
- 3) In the event of failure/suspension of Block instrument, block telephone and station to station fixed telephone or Railway auto phone or BSNL phone, 'Line Clear' shall be obtained on the

control phone exchanging Identification Number and supported by Private Number vide SR 6.02.06 (1) (c) and Chapter-III Part-I of Block Working Manual.

- 4) In the event of failure / suspension of block instrument or block telephone attached to the block instrument, or station to station fixed telephone or Railway auto telephone or BSNL phone or control telephone, line clear shall be obtained on the VHF set exchanging ID number supported by Private Number provided that the instructions contained in SR 14.01.02 are followed vide SR 6.02.06 (1) (d), Chapter-III part-I of Block Working Manual
- 5) In the event of total failure of all communications between BICHHUPALLI-BALANGIR & BICHHUPALLI-JHARTARABHA, trains shall be worked vide SR 6.02.04.

25 POWER SUPPLY ARRANGEMENT FOR THE SIGNALLING INSTALLATION:

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 AEEE/GEN and CTFO/PSI/TRD/GEN for prompt rectification.
- d) 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 dairy duly initiating action for rectification of failure, if any.

(B) WORKING OF INTEGRATED POWER SUPPLY [IPS], INDICATIONS & ACTION TO BE TAKEN BY SS/SM ON DUTY

- i) Power supply to the signalling installation is fed through IPS installed in the S&T power supply room. The IPS is normally fed through AT traction power. Standby power supply are through local supply and DG supply. One change over switch is provided in the SM's room for selection of output of AT traction power supply or

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

- ii) The IPS system is connected with Battery as a back-up power source for safe working during transition of power and in case no 230v AC supply is available due to any reason.
- iii) In the event of failure of all the sources of 230V, 50 Hz AC supply, the signalling system shall be fed by power generated by back-up battery Bank connected to IPS for a limited power of 08 to 10 hours. The health of battery bank is monitored through one IPS monitoring Panel provided in the SM's room which shall be display the voltage 110V DC [Battery bank provided as back-up source of power supply]. Depending upon the health of the Battery Bank and the system, the following indication/alarm will appear on the Remote Monitoring Panel, their implications and action to be taken by SS/SM on duty is tabulated below.

SN	Instruction	Healthy of Battery Bank /Equipment	Visual Indication	Audio Indication	Action to be taken by SS/SM on duty
A	-	50% DOD (Depth of Discharge)	Red	Alarm	Alarm shall be acknowledged by SS/ 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 SS/SM on duty for audio cut-off.
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On duty SS/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 traction power, local power and DG supply failed the SS/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 SS/SM on duty shall inform the same to concerned S&T staff immediately.

NOTE: In case of failure of all AC supply sources IPS Battery Bank can provide power supply maximum up to 08 to 10 hours before system shut down indication of IPS.

APPENDIX - 'C'

ANTI COLLISION DEVICE (RAKSHA KAVACH)

NIL

APPENDIX - 'D'**1.0 STATION MANAGER (IN-CHARGE):-**

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

He is responsible for maintaining the Assurance Register up-to-date. He shall conduct surprise night inspection and safety meetings/fire drills etc. as per instructions issued from time to time. He shall see that all the staff under his control working safely according to the rules in force.

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

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

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

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

He shall frequently visit the platform, station, LC gate etc. in order to maintain an effective supervision over the said staff and their working. He shall see that station premises are kept neat and clean.

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

He shall see that all equipment, apparatus and instruments including signal and interlocking gears are in proper working order and all failures are promptly reported to officials concerned for repairs/rectifications.

He shall pay special attention towards passenger amenities & coaching trains punctuality and yard feasibility. He shall endeavor for minimizing detention to freight trains by judicious planning of trains staff. He shall pay attention to smooth functioning of goods train to eliminate detentions. He shall attend to all compliance by traveling/trading public.

He shall see that the law and order in the station area like public agitation, Rail Roko etc. Affecting movement of traffic is taken care of with the help of G.R.P. and R.P.F and civil authorities as per need.

He shall ensure compliances of all Operating, Safety and Commercial records maintained at the station. He is responsible for overall supervision of the station.

His special attention is drawn to chapter No.II of G & S R (Amendment) 2000 and GR 5.01 to 5.08 with relevant SRs. He shall follow the instruction laid down in SR 3.68.01 (c) & (d) and SR 14.07.01 and BWM 2.09 (e). He shall conduct surprise night inspection, safety meetings and fire drills. He shall maintain good public relation as well as look after passenger's amenities and be helpful to travelling public.

1.1 **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 and thoroughly understood the system in force and must sign such declaration.

No Railway servant shall be entrusted with any duty involving safety of the public unless the station in-charge 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 is responsible to see that all the staff are conversant with the Station Working Rules 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 Group 'D' staff, their signature/thumb impression must be obtained after explaining them fully about their duties and responsibilities.

The Station Superintendent is responsible personally for maintaining the Assurance Register and for obtaining declaration of the staff working under him. The Assurance Register must be maintained in two parts, one for Group 'C' and the other for Group 'D' staff. A duplicate copy of the Assurance Register must be maintained and kept in personal custody of the Station Superintendent.

The declaration shall be renewed in the following cases:-

- (i) Whenever there is a change in the Station Working Rules.
- (ii) For any staff who have not worked at the station or were away from the station for a period of 15 days or more.

2.0 **USE OF PRIVATE NUMBER BLOCKS IDENTIFICATION NUMBER SHEET:-**

Sufficient Private Number books and I.D number sheets in sealed covers shall be kept always in the stock by SS/SM under lock and key. He shall maintain a register for this purpose.

3.0 **ACCIDENTS:**

Accidents shall be reported and immediate action shall be taken by the Station Superintendent in-charge in accordance with the instructions laid down in the Accident Manual. Whenever the Station Superintendent receives report of an accident, he shall take all necessary precautionary measures to protect the traffic and shall arrange earliest possible assistance as required at the site of accident. He shall frame the accident message/reports and follow up all safety principles without delay.

4.0 **TESTING OF POINTS AND SIGNALS:**

The Station Superintendent shall test the working of the reception signals daily during the day when there is no train due to arrive/leave the station. He shall also test the working of points, crossings, Crank handle etc. and record the result in the Station Master's diary.

5.0 **Dy. SS/STATION MASTER:**

He shall work in 08 hours shift for train passing and booking of traffic, coaching returns and other statements shall be prepared and submitted by him in time under the direction of the Station Superintendent in charge. He shall assist the Station Superintendent in charge for the up keep of the station in all aspects.

Station Master on duty who makes an entry in the train signal register must continue on duty till all the entries pertaining to the trains are completed vide Subsidiary Rule 14.07.01.

He is responsible for working beyond this period when called upon to do so in the exigencies of services. He will follow SR 3.68 (c) & (d), SR 14.07.01. Their special attention is drawn to chapter II of G & SR (Amendment) 2000 and GR 5.01 to 5.08 with relevant SRs. As an Assistant to the SS, he shall follow the instructions given to him by the SS.

6.0 **HANDING OVER AND TAKING OVER CHARGE:** The SS in charge/Station Master on duty shall record in the SM's diary the condition of all the running lines, the caution orders in force at the time of handing over and taking over of charge. These entries must be counter signed by the Station Master coming on duty while taking over charge. This will not, however, relieve any one of the SS/SM of his responsibility to ensure by physical check that the nominated line is clear of all obstructions before admission of any train on it.

7.0 **TRAFFIC POINTSMAN:**

He shall work under the instructions of SM on duty and follow the GR 02.05 to 2.11 and other relevant rules laid down in GR and SR. He shall remain responsible for:

- (i) Delivery of authority to proceed and caution order etc. to the Loco Pilot of train.
- (ii) Correct setting and locking and crank handling of points for reception/dispatch and shunting operation under the supervision of Station Master.
- (iii) To couple and uncouple vehicles under the supervision of Station Master/Guard when shunting operation is in progress.
- (iv) Piloting and hand signaling of trains when necessary.
- (v) Knowledge of hand signals, detonators and their use.
- (vi) Protection of line in emergency and fog signaling.
- (vii) Exchange of signals with the loco pilot and Guard of passing trains as directed by the Station Master.
- (ix) Loading/unloading of parcels, luggage, Guard boxes and packages to and from the train and watching the packages and other materials by properly stacking in the station premises.
- (x) Dusting of station office, filling up the fire buckets with sand/water and getting train interconnect arrival register (T/1410) signed by the Guard as and when required.
- (xi) Serving messages and any other duties entrusted to them by the SS/SM from time to time.
- (xii) Uses of emergency crank handle for setting of points.
- (xiii) To supervise shunting as per SR 5.13.03.
- (xiv) They must be thoroughly conversant with the GR 3.38, 3.46, 3.77 (I), 5.09, 3.52 to 3.60, 3.62, 5.13, 5.15, 5.16, 5.21, 5.23 & SRs there to and their special attention is drawn to chapter No. II of G & S R (Amendment) 2000 also.
- (xv) When necessary they will work in the goomtias for observing and reporting the complete/incomplete arrival/departure of trains as per the order of the SM on duty in case of failure of Axle counter/Track circuit.

GENERAL

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

A set of Red and Green flags and tricolor hand signal lamps will be part of the essential equipments of the staff while on duty. They shall not leave the station except when required by the SM on duty or with his permission. They shall comply with SR 4.42.02 (b) and (c).

APPENDIX - 'E'**ESSENTIAL EQUIPMENTS OF THE STATION**

Below is the list of essential safety equipments, which shall be readily available in good working order with necessary relief stock.

S N	Description	Quantity
1.	Detonators	10 in tin case
2.	Battery operated LED based flashing Hand Signal lamps	06 Nos.
3.	Hand signal flags	04 sets.
4.	Safety chains with pad locks	06 Nos.
5.	Wedges	10 Nos.
6.	Fire buckets (with sand and water)	06 Nos.
7.	Clamps with padlocks	08 Nos.
8.	First aid Box	01 No.
9.	Fire extinguisher	02 No.
10.	Stretcher	01No.
11.	Blanket	01 No.
12.	Block Suspension Board	02No.
13.	"Motor Trolley on line" boards	02 No.

APPENDIX - 'F'**IBH: RULES FOR WORKING INTERMEDIATE BLOCK SIGNALLING :****NA****APPENDIX - 'G'****RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS**

ENCLOSED