East Coast Railway
Waltair Division

Station Working Rules
of
BHANSI (BHNS)

East Coast Railway / Waltair Division

Station Working Rules of
BHANSI (BHNS)

Index of Correction Slips

Sl No	Correction Slip No	Date of issue	No. of Pages Replaced	Total No of Pages

East Coast Railway / Waltair Division

Station Working Rules of
BHANSI (BHNS)

Index of Page Numbers

EAST COAST RAILWAY
WALTAIR DIVISION

No.WTF/5/SWR/BHNS Date of issue: **12-09-2023**
Date brought into force:

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

STATION WORKING RULES OF BHANSI STATION (BROAD GAUGE)

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

1.0 STATION WORKING RULE DIAGRAM

i) Station working diagram No: SI/10723 Alt 'F'

ii) CSTE/ECo.Rly/ DRG NO SI/10723 Alt 'F'

iii) Date up to which corrected : **11-09-2023**

2. DESCRIPTION OF THE STATION:

2.1 a) GENERAL (LOCATION):

a)	Name of the Station	BHANSI **(BHNS)**
b)	Class of Station	'B'
c)	Section	Kottavalasa – Kirandul
d)	Double/Single line	Single Line
e)	Electrified/non electrified	Electrified
f)	Guage BG/MG/NG	BG
g)	Railway	East Coast Railway
h)	Route	'D'
i)	Situated at KM	KM 426.909
j)	Reckoned from	Kottavalasa (KTV)
k)	Operation	Centrally operated Domino type full fledged Panel
l)	Type of interlocking	Std-III

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

	Adjacent Block Station	**Distance**	**Direction**
A)	KMLR	12.42 KM	KTV END
	BCHL	9.946 KM	KRDL END
B)	Provision of IBS	Nil	
C)	Automatic Signals	Nil	
D)	DK Station & Out Lying Siding	Nil	

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

Between Stations	The Point from which the "Block Section" Commences	The Point at which "Block Section" Ends
BHNS-KMLR DN Direction	From DN advanced starter signal no. 12 of BHNS	From UP advanced starter signal no.11 of KMLR
BHNS-BCHL UP Direction	From UP advanced starter signal no.11 of BHNS	From DN advanced starter signal no. 12 of BCHL

2.4 GRADIENTS:

Gradients from the center of the Station Building towards Kottavalasa:

SL.NO	CHAINAGE		INTER DISTANCE	GRADIENT
	FROM	TO		
1	0.000 M	429.000 M	429.000 M	1 in 800 Falling
2	429.000 M	676.000 M	90.710 M	Level
3	676.000 M	Into Section	-	1 in 100 Falling

TOWARDS KIRANDUL:

SL.NO	CHAINAGE		INTER DISTANCE	GRADIENT
	FROM	TO		
1	0.000 M	833.000 M	833.000 M	1 in 800 Raising
2	833.000 M	2960.000 M	2127.000 M	1 in 80 Raising
3	2960.000 M	Into Section	-	Level

2.5 LAYOUT:

This is a 'B' class three lined single line station with Standard-III Full fledged panel interlocking provided with isolation. Line No.2 is Main line and 1 & 3 are Loop Lines, and a Low level Passengers Plat Form (243.84M X 9.65M) on 1st loop (Line Number one), with 25 KV AC Traction.

The sidings provided at this station are:-

a). A Hot axle siding takes off from 2nd loop having entry on both sides at KTV end of the yard.
b). A sub-station siding takes off from 1st loop at KTV end with a derailing switch and terminated into a dead end.
c). Ballast siding takes off from the over run line at 1st loop at KRDL end with a derailing switch terminates into a dead end.
d). A Slip siding is provided at KTV end of the yard.

The yard layout is shown on the Panel in a miniature form and the panel is fixed parallel to the track so that when the Station Master faces the panel the yard diagram on the Panel corresponds to the actual field layout in either direction.

i). HOT AXLE SIDING (KTV END):

The Hot Axle siding of 52M takes off from 2nd loop line (at KTV end of the yard) and is isolated by derailing switch at both ends. The entrance points and the corresponding derailing switches are coupled and operated by Arc levers provided at side at either end of the sidings. Hand plunger lock fitted at KRDL end entrance points is unlocked by key released from RKT instrument provided at station when the switch No.23 is in its reversed position on the panel board. When this key is extracted the UP and Down reception and dispatch signals for 2nd loop line cannot be taken 'OFF'. Hand plunger lock is fitted at the entrance points at KRDL end of the siding when the same point was set to its reverse position.

ii). SUB-STATION SIDING:

The Sub-Station siding of 88M takes off from 1st loop line (at KTV end of the yard) and terminates into a dead end towards KTV end and is isolated by a derailing switch. The entrance point and the derailing switch point are provided with succession key locking arrangement and are operated individually by hand levers provide at site. Hand plunger lock fitted at the entrance point is unlocked by a key released from RKT instrument provided in SM's office when the Switch No.20 is in its 'Reversed' position on the panel board. Key 'M' released at this end in its reverse setting is used to unlock the hand plunger lock fitted at the derailing switch point. When the key is extracted from RKT and UP and Down reception and dispatch signals for 1st loop line cannot be taken 'OFF'.

iii). BALLAST SIDING:

The ballast siding 477.M takes off from the over run line 1st loop line at KRDL end and terminates into a dead end and is isolated by a derailing switch point No.17 operated from panel board.

iv). SLIP SIDING:

A slip siding is provided at the KTV end of the yard. It normally remains set for the slip siding. The slip siding point is operated by point switch No.18 when the block instrument for section BHNS-KMLR with its handle in either "Train Going TO" or "Train Coming From" position. When an incoming or out going train occupies and clears the slip siding point zone, an alarm is sounded and "RED" light appears on the panel till the point is restored to normal setting by turning the point control switch to "Normal" position. Block instrument of BHNS-KMLR section cannot be normalized until and unless the slip siding point is restored to normal position.

2.5.1 RUNNING LINES DIRECTION OF MOVEMENT &HOLDING CAPACITY IN CSR:

i) Trains coming from BCHL and proceeding towards Kamalur are down trains.

ii) Trains coming from Kamalur and proceeding towards BCHL are up trains.

iii) RUNNING LINES, DIRECTION OF MOVEMENT AND HOLDING CAPACITY:

Sl No	Running Line	Description	CSL in Meters	Electrified Non-Electrified
01	Line No.1	1st Loop Line	**706** (STR to STR)	Electrified
02	Line No.2	Main Line	**708** (STR to STR)	Electrified
03	Line No.3	2nd Loop Line	**708** (STR to STR)	Electrified

2.5.2 NON RUNNING LINES AND THEIR CAPACITY:

SL.NO	NON-RUNNING LINES	LENGTH
1	Hot Axle Siding	52 M
2	Sub-Station Siding	88 M
3	Ballast Siding	477.5 M
4	Slip Siding	-

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT:

A slip siding is provided at KTV end of the yard to protect the block section BHNS-KMLR due to steep falling gradient.

2.6 LEVEL CROSSING:

There are no level crossing gates at this station.

3.0 SYSTEM AND MEANS OF WORKING:

a). Trains are worked under Absolute Block System in accordance with GR 8.01(1)(a)(c), 8.01(2)(b), 8.03(2)(b)(ii), 14.01 to 14.08, 14.10, 14.12, 14.13 and BWM Chapter-IV Part-II in either direction.

b). BLOCK INSTRUMENTS:

Daido type tokenless block instruments are provided for Block sections BHNS-KMLR and BHNS-BCHL vide GR 14.01(a).

c). AUTHORITY TO PROCEED:

Taking 'OFF' the last stop signal (Advanced Starter) is the authority for the Loco Pilot to proceed into the block section concerned vide GR 14.08(b)(iv).

d). The Station Master on duty is the only authorized person to operate the block instrument and the keys of the block instruments must be kept in the personal custody of Station Master on duty vide GR 5.08.

3.1 MOVEMENT OF TRAINS:

Movement of trains is regulated by the Section Controller on duty whose orders must be carried out provided they do not contravene any GR & SR, BWM, OM and SWR and any other safe working principles. In the event of suspension of control working, the SM on duty shall work independently in conjunction with the Station Master's of the adjacent block stations and shall be responsible for reception and dispatch of trains. He shall ensure that the preference is given to important trains and at the same time no undue detention occurs to other trains.

4.0 SYSTEM OF SIGANLLING AND INTERLOCKING:

4.1

Standard of interlocking	Standard III
Type of signaling	MACLS
Method of operating points & signals	Domino type miniature mimic indication centrally operated panel board.
Provision of axle counters/track circuits on running line	All the 3 running lines are track circuited.
Axle Counters	Provided High availability Single Section Digital Axle counter (HASSDAC) for last vehicle verification between BHNS-BCHL and BHNS-KMLR Sections on both UP and DN Lines respectively.
Calling On signals	Calling on signals provided below the UP&DN home signals.
Provision of Shunt Signals	Shunt back signals SH3(A/B) and SH4(A/B) are provided towards KMLR end of the yard and towards BCHL end of the yard respectively.
Provision of Emergency Cross over	Not Applicable
Crank Handles	Common crank handle provided at East and West side of Point locations
Emergency point operation	Emergency point operation facility is provided to operate the point from the VDU in case of failure of point controlling track circuit/Axle Counter. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

Emergency Route Release	All the signals in this station are provided with 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' on the route, the route gets locked. Normally the route is released by the passage of the train over the route.When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), Emergency route release operation procedure as mentioned in Para No.5.1 of Appendix-'B' in this SWR shall be followed.
Emergency Crank Handle Release operation	Emergency crank handle release operation facility is provided to operate the point by using the crank handle in case of Route locked condition. For Emergency crank handle operation the procedure laid down in Para No.5.3 of Appendix-'B' shall be followed. Each operation of emergency crank handle operation shall be recorded in the station diary and in the register meant for this purpose.

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

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

Relay room/ relay hubs/goomties/Gate goomties/cabin housing are provided with two independent locks. The key of one lock shall be in the personnel custody of Station Master on duty and the key of other lock shall be in the custody of S&T Maintainer. In the event of necessity such as for attending failure, or regular maintenance, on being requisitioned by S&T maintainer, SM shall hand over the key to the Maintainer.

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

4.3 POWER SUPPLY:

Normal power supply source is drawn from AT supply.
Standby power supply source is drawn from **CGSEB local** power supply.

5.0 TELECOMMUNICATIONS:

i) Telephone attached to the block instrument.

ii) Hot line telephone between the two adjacent block stations.

iii) Telephone between SM's office and CH location.

iv) Control telephone of KRPU-KRDL control.

v) Traction power control telephone of KRPU-KRDL.

vi) 25Watts VHF sets.

vii Railway Auto phone is provided at this Station

5.1 ACTION IN THE EVENT OF FAILURE OF TELEPHONE COMMUNICATIONS:

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

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

6.0 SYSTEM OF TRAIN WORKING:

.6.1 DUTIES OF TRAIN WORKING STAFF:

Movement of trains is regulated by the Section Controller on duty whose orders must be carried out provided they do not in any way contravene any G&SR, BWM, OM and SWR and any other safe working principles. In the event of suspension of control working the SM onduty shall work independently in conjunction with the Station Master's of the adjacent block stations and shall be responsible for reception/dispatch of trains. He shall ensure that preference is given to immediate trains without causing undue detention which occurs to other trains vide OM 2.14 & 2.24(a).

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

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

Category	Staff in each shift
Station Superintendent / Station Master	1
Points Man / TP	1

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

(The duties of operating staff at the Station are incorporated in Appendix 'D' in the SWR.)

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

a). The Station Master on duty is responsible to nominate a clear line which is clear of all obstructions from the Home Signal to the Starter Signal inclusive of adequate distance beyond if for admission of trains GR 3.40(1)(b), 3.40(3)(b).
b). The clearance of the running line for the reception of the train is to be verified by the Station Master on duty by verifying linous indication provided on the panel board.

6.1.3 ASSURANCE OF STAFF IN THE ASSURANCE REGISTER:

Any staff before taking of independent charge of duties connected to train working or any staff who is away from his duty for the period of 15 days or more shall sign in the Assurance Register in token of having understood the contents. However, in the event of any corrections or modification in the SWR is involve a, the assurance of the all the staff who ever is entrusted the work of trains passing duty shall be obtained a fresh in the Assurance Register by the In-charge of the station before they are allowed to work vide SR 5.01.02.

CONDITIONS FOR GRANTING LINE CLEAR:

a) The trains are worked under Absolute block system with single line working and MACLS vide GR 7.01(1)(a) & 8.01

b) The conditions laid in GR. 8.01(1)(a) & (c), 8.01(2)(b), GR 8.03(2)(a)(b) &(ii), GR 14.10 & BWM Ch-IV Part-II must be complied with before the line is considered clear and line clear is granted to the block station in rear for a train by the SM on duty.

c) **Principles to be observed before granting line clear:-**

i) Line shall not be considered clear and line clear shall not be granted to any Up train unless whole of the last preceding Up train has arrived complete, Up Home signal/Calling On signal No.1 A/B/C and/or C(1A/B/C) put back to On and line is clear up to Down Advanced Starter No.12.

ii) Line shall not be considered clear and line clear shall not be granted to a Dn train unless whole of the last preceding Dn train has arrived complete, Dn Home signal/Calling On signal No. 2A/B/C and/or C(2A/B/C) put back to On and line is clear up to Up Advanced Starter No.11.

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

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE:

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

Safety Point Alarm:-

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

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

If all the lines of a station happen to be blocked, when line clear has been granted to a train, **then the Safety Point Alarm will not work.** Then, the points should be set for the line occupied by a stabled load or a goods train in that order so that, in case of mishap, the chances of causalities are minimized. In case of all the lines are occupied by passenger train, points should be set for a loop line to negotiate which the speed of incoming train would be reduced which in turn, would minimize the consequences / causalities vide SR 3.51.06(b). These precautions shall be taken in addition to the observance of other precautions as contained in SR 5.04.01 and SR 5.23.01.

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

6.2.1.2 RECEPTION OF TRAIN ON BLOCKED LINE:

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

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

Not Applicable

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE:

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

Not Applicable.

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

SPECIAL RESTRICTIONS:

i) Shunting shall not be permitted at BCHL end of the station unless the engine is towards the falling gradient vide SR 5.20.01(b).
ii) Motor trollies on following line clear shall not be permitted between BHNS-KMLR, BHNS_BCHL in view of sharp curves and steep gradients vide circular No. WTP/2, dt.11.09.79

SPECIAL INSTRUCTIONS:

Nil

6.3 CONDITIONS FOR TAKING 'OFF' APPROACH SIGNALS

i) For taking 'OFF' Home signal the conditions vide GR 3.40, SR 3.40.01 &SR 3.40.02 shall be observed.

ii) Calling On signal maybe taken off for admission of trains as per SR 3.69.02(a) in the event of failure of Home signal or on obstructed line as per GR 5.09 & SRs thereto.

The Home signal overlaps for admission of trains in terms of GR 3.40(1)(b) & 3.40(3)(b).

CLEARING OF ADEQUATE DISTANCE				
LINE NO.	**UP TRANS**		**DOWN TRAINS**	
	FROM	**TO**	**FROM**	**TO**
1st Loop (L-1)	Up Starter No.7	Up Advanced Starter No.11 or end of over run line.	Dn Starter No. 8	Dn Advanced Starter No.12 or end of over run line.
Main Line (L-2)	Up Main starter No.9	Up Advanced Starter No.11	Dn Starter No. 10	Dn Advanced Starter No.12
2nd Loop (L-3)	Up Starter signal No.5	Up Advanced Starter No.11 end of Sand Hump	Dn Starter No. 6	Dn Advanced Starter No.12 or end of over run line

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

If in an emergency a Reception signal is required to put back to On position, SM on

duty shall observe SR 3.36.02(b).

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

According to the existing inter locking at this station the simultaneous reception and dispatch is permitted.

Reception of an UP train on Line NO.1	AND	Reception of DN train on Line No.3 Or Dispatch of another UP train from Line No.2 or 3.
Reception of a UP train on Line No.3	AND	Reception of DN train on Line No.1 Or Dispatch of another UP train from Line No.1 or 2.
Reception of a DN train on Line No.1	AND	Reception of DN train on Line No.3 Or Dispatch of DN train from Line No.2 or 3.
Reception of a DN train on Line No.3	AND	Reception of DN train on Line No.1 Or Dispatch of DN train from Line No.2or 1.

6.5 COMPLETE ARRIVAL OF TRAINS:

The entire block section between BHNS-KMLR & BHNS-BCHL, are provided with High Availability Single Section Digital Axle Counter.

For Section BHNS-KMLR:

A Pair of High Availability Single Section Digital axle counter (HASSDAC) is provided between BHNS-KMLR one at just beyond Down advanced starter signal no.12 of BHNS and another on 1T2 track circuit of KMLR, for last vehicle verification.

For Section BHNS-BCHL:

A Pair of High Availability Single Section Digital axle counter (HASSDAC) is provided between BHNS-BCHL one at just beyond Up advanced starter signal no.11 of BHNS and another on 1T2 track circuit of BCHL, for last vehicle verification.

The position of the Block section whether cleared or occupied is reflected in the axle counter reset box and VDU provided in the Station Master's office which shows `GREEN' when the Block Section is clear and

`RED' when occupied. Whenever a train enters in to the Block Section, "Block Section Clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears.

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

A resetting arrangement is provided in the SM office to reset the system to normal position in case of failure of both the systems of Axle counter for HASSDAC. The resetting to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at either end of the block section. Details of resetting procedure is given in Appendix-'B'

Note:

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

FOR THROUGH TRAINS:

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

6.6 DISPATCH OF TRAINS:

a) Dispatch of trains shall be governed by GR. 3.42 and SRs thereto. SR 3.42.02(a)(ii) & SR 3.42.04. And SR 3.36.04(b).

b) Issue of Caution Orders shall be governed by GR 4.09 & relevant SRs.

6.7 TRAINS RUNNING THROUGH:

Trains running through governed by GR 4.16 & SRs thereto, SR 4.17.01(a).

6.8 WORKING IN CASE OF FAILURE:

a) FAILURE OF TRACK CIRCUITS

In the event of failure of track circuits, SM on duty shall ensure clearance of track circuited portion by sending TPM / TP to check before allowing movement of a train

b) FAILURE OF POINTS:

In the event of failure of points SM on duty shall observe GR 3.77 and relevant SRs

c) FAILURE OF SIGNALS

In the event of failure of approach stop signals GR 3.69 & relevant SRs shall be observed. In the event of failure of departures stop signals GR 3.70 & SRs thereto shall be followed.

d) FAILURE OF AXLE COUNTERS/AXLE COUNTER BLOCK:

Detailed procedure is shown in Appendix –'B'

e) RECEPTION OF TRAINS ON OBSTRUCTED LINE/NON SIGNALLED LINE:

Discussed in Para No.6.2.1.2 and 6.2.1.4

6.9 PROVISIONS FOR WORKING OF MOTOR TROLLIES / MATERIAL TROLLIES:

a) Motor trollies shall be worked as per GR 15.25 and SR thereto.
b) Material lorries/Trollies/Lorries are to be run in track circuited area shall be worked vide SR 15.20.02.
c) Material lorries shall work as per GR 15.27 and SR's thereto.

7. BLOCKING OF LINE:

In the event of running line is blocked by a stabled vehicle or for maintenance work SM on duty shall take following precautions:-

i) SM shall arrange to set the points at either end against the blocked line vide SR 3.51.06(a) and apply the reminder collars on the point switches.

ii) SM shall further take precautions as given in SR 5.23.01.

iii) For carrying out maintenance works in which blocking of lines involves, SR 15.08.01, 15.08.04 & 15.08.05 shall be followed.

8.0 SHUNTING:

8.1 GENERAL PRECAUTIONS :

Shunting is governed by GR 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16, 5.19, 5.20 to 5.23

8.2 SHUNTING IN THE FACE OF AN APPROACHING TRAIN:

Shunting in the face of an approaching train is governed by vide GR 8.09.

8.3 PROHIBITION OF SHUNTING - SPECIAL FEATURES:

a) Shunting in the face of an approaching train is governed by vide SR 8.09.02(b)(i).

b) Hand shunting is prohibited vide GR 5.20.

c) Fly shunting is prohibited vide SR 5.21.01(c).

d) Unless the engine is leading towards falling gradient shunting shall not be permitted.

8.4 SHUNTING ON SINGLE LINE:

i) Within Station section: Shunting within the station section shall be governed by GR 8.10.

ii) Between last stop signal and opposite first stop signal shall be governed by GR 8.12.

iii) Beyond opposite first stop signal shall be governed GR 8.13.

iv) During failure of block instrument: In the event of failure of Block instrument before allowing any shunt movement SM on duty at both the adjacent stations concerned shall exchange messages of Block back and ensure no other movement is allowed into that station until the shunting is completed or cancelled. Line block label is hung on the block instrument concerned. Whenever possible lock the block instrument in such a way to prevent the operation of block instrument.

8.5 SHUNTING ON DOUBLE LINE:

Not Applicable

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

The shunting in the Hot axle siding shall be authorized by the issue of T/806 vide SR 5.13.02. Since movement is Non signalled and clamping and padlocking of facing and trailing points shall be resorted to.

9. ABNORMAL CONDITIONS:

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

i) During partial interruption of communication between two adjacent block stations, shall be followed SR 6.02.06.

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

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

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

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

vi) Failure of MTRC: Not applicable.

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

i) The detailed procedure for crank handling of points in the event of failure of points is explained in Appendix-B.

ii) The detailed procedure for emergency operation of points in the event of Points zone track circuit failed is given in Appendix- B.

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

Unless otherwise required to admit a train on obstructed line as per of GR 5.09 and SRs thereto, clearance of track before Calling On signal is initiated is to be ensured by SM onduty through indication on panel board.

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

i) In the event of failure of points, signals, track circuits/axle counters and interlocking the SM on duty shall advice the concerned Maintainer through a memo and after rectification shall obtain memo to his effect.

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

9.1 TOTAL FAILURE OF COMMUNICATIONS:

In the event of total failure of communications between two adjacent block stations SR 6.02.04 shall be followed.

9.2 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

Not Applicable.

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

i) In the event of total failure of communications trains shall run on the authority to proceed without line clear in terms of SR 6.02.04.

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

10. VISIBILITY TEST OBJECT:

i) The lights of up starter signal No.7. And Dn. Starter signal No.8 of 1st loop are earmarked to since as visibility test object during day and night vide GR 3.61,(2)(b)(iii).

ii) The SM on duty may at his discretion comply GR 3.61(1) & arrange to place detonators as mentioned there in and when required to do so.

11. ESSENTIAL EQUIPMENT:

The detailed list of essential equipment to be kept readily available for use at the station is mentioned in Appendix-E of the SWR.

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

i) During thick/foggy or tempestuous weather when the visibility of signals impaired the SM on duty shall comply GR 3.61 and relevant SRs thereto in order to indicate to the Loco Pilots of approach trains, the locality of a signal.
Fog signalman shall be a regular employee of the Railway. Substitute/casual labour shall not be utilised as Fog Signalmen vide SR 3.61.01(i).

ii) SM shall explain the rules to work in the event of fog to the Fog Signalmen nominated and their signatures to be obtained in Station Detonator Register on Form No. OP/T 124 vide SR 3.61.01(m).

iii) Position of stock of detonators/use/testing etc. are maintained in terms of GR 3.64 and SRs thereto.

iv) Life span of detonators is 7 yrs from the date of manufacture.

13. APPENDICES:

Appendix 'A'	Working of level Crossing gates.
Appendix 'B'	System of signalling and interlocking and communication arrangements at the station.
Appendix 'C'	Anti Collision Device (Raksha Kavach).
Appendix 'D'	Duties of Train Passing Staff and Staff in each shift.
Appendix 'E'	List of Essential equipment provided at the Station.
Appendix 'F'	Rules for Working of DK stations, halts, IBH, IBS and outlying sidings.
Appendix 'G'	Rules for working of trains in electrified sections.
Appendix 'H'	Rules for working of private siding.

APPENDIX 'A' TO STATION WORKING RULES OF BHANSI STATION

No Level Crossing Gates are at this station.

APPENDIX 'B' TO STATION WORKING RULES OF BHANSI STATION

DETAILS OF SIGNALLING AND INTERLOCKING INSTALLATION, INSTRUCTIONS FOR WORKING THEM NORMALLY AND IN EMERGENCIES ETC., INCLUDING THE POWER SUPPLY ARRANGEMETNS:

1.1 BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:

This is a 'B' Class station with Standard-III interlocking [with isolation]. The points and signals are power operated from a composite miniature 'DOMINO TYPE' full fledged panel installed in the Station Master's office. This station is equipeed with manually operated Multi Aspect Colour Light Signalling.

1.2 DESCRIPTION OF PANEL:

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

2.0 POINT BUTTONS:

Push buttons are provided on this panel over all points. These buttons are BLACK in colour, Point group buttons are also provided separately for 'Normal' and 'Reverse' operation. These are 'BLACK WITH RED DOT' in colour. Point can be set either individually or during route setting. For individual setting of point to normal [N] position, individual point button with point group 'Normal' button are to be pressed. For individual setting of points to reverse [R] position, individual point button with point group 'Reverse' button are to be pressed. During route setting points will be set in 'Normal' or 'Reverse' as per the requirement. Different indications are shown on the panel below each point as follows.

2.1 When a point is, set and locked correctly in Normal [N] position a "WHITE" indication appears suggesting that the point is in NORMAL position.

2.2 When a point is set and locked correctly in Reverse [R] position a 'GREEN' indication appears suggesting at the point is in REVERSE position.

2.3 When the points of any route have been correctly set and relevant signals taken 'OFF' a 'RED' indication appears indicating that the concerned points are locked either in NORMAL or REVERSE position as the case may be. With the RED indication on panel, the point cannot be altered unless a special recourse is taken.

2.4 When points are not set and locked whether in NORMAL or in REVERSE correctly the normal or reverse indication will not be there, but the RED lock indication will start flashing till such time the point is housed properly in one of the positions. This RED lock indication will flash during operation of point also.

2.5 OPERATION OF POINTS:

Points are operated to NORMAL or REVERSE by pressing individual point button in conjunction with the point group button there by the RED indication will start flashing till the points are set to NORMAL or REVERSE position and locked. Then the WHITE indication will appear for NORMAL setting of points and the GREEN indication will appear for REVERSE setting of points. Points can be set to NORMAL or REVERSE position during route setting also.

2.6 All running line points are operated by Electric Point Machine.

2.7 The cause for non-setting of the point in the desired position has to be checked up by the Station Master on duty according to G & SR 3.68.01(c) and if there is a defect other than obstruction this point has to be considered as defective and action shall be taken for clamping and padlocking these points in the desired position by the Station Master on duty himself for all trains according to SR 3.69.03(c).

3.0 DESCRIPTION OF POINT BUTTONS:

Sl	Point Button No.	Colour	Description
1	13 WN	BLACK	Crossover point between Main Line and 1st Loop Line at KRDL end with over run line.
2	14 WN	BLACK	Crossover point between Main Line and 2nd Loop Line at KTV end with over-run line.
3	15 WN	BLACK	Crossover point between Main Line and 2nd Loop Line at KRDL end with sand hump
4	16 WN	BLACK	Crossover point between Main Line and 1st Loop Line at KTV end with over-run line.
5	17 WN	BLACK	Ballast siding Control.
6	18 WN	BLACK	Slip siding point.
7	20	BLACK	Sub-Station siding control.
8	23	BLACK	Hot Axle siding control.
9	Point Group Button [Normal]	BLACK with RED DOT	Common button for Normal operation of all points.
10	Point Group Button [Reverse]	BLACK with RED DOT	Common button for Reverse operation of all points.

3.1 SIGNAL BUTTONS:

Sl.	Button No.	Colour	Description
1	C1	RED with WHITE DOT	Up “Calling on” signal for Line No.1, 2 & 3.
2	S1	RED	Up Home signal for Line No.1, 2 & 3.
3	C2	RED with WHITE DOT	Down “Calling on” Signal for Line No.1, 2 & 3.
4	S2	RED	Down Home Signal for Line No.1, 2 & 3.
5	S5	RED	UP Loop Starter for Line No.3
6	S6	RED	Down Loop Starter for Line No.3
7	S7	RED	UP Loop Starter for Line No.1

8	S8	RED	Down Loop Starter for Line No.1
9	S9	RED	UP Main Starter for Line No.2
10	S10	RED	Down Main Starter for Line No.2
11	S11	RED	Up Advanced Starter.
12	S12	RED	Down Advanced Starter.
13	SH3	YELLOW	Up Shunt Signal for Line No.1, 2 & 3.
14	SH4	YELLOW	Down Shunt Signal for Line No. 1, 2 & 3.
15	SH7	YELLOW	Shunt Signal for Ballast Siding.
16	SH24	YELLOW	Shunt Signal for Ballast Siding.

3.2 SIGNAL INDICATION:

The aspect of signals as obtained at any time is shown on the panel on the signal indication [Along side of the track].

4.0 ROUTE BUTTONS:

L1UN, L1UNI, L2UN, L3UN & L3UNI are common route buttons for taking off home signals for up & dn directions. Further these route buttons can also be used for calling on signals and shunt back signals as the case may be. 12ATUN and 2TIUN are common route buttons for dn & up starters respectively. 12UN & 11UN are individual route buttons for dn & up advanced starters respectively. An individual route button is provided for taking off Advanced Starter [viz.11 UN, 12 UN]. For clearing the signals it is necessary to operate the signal button and the concerned route button concurrently.

4.1 DESCRIPTION OF ROUTE BUTTONS:

Sl	Button No.	Colour	Description
1	L-1UN	WHITE	Common route button for Up & Down Home Signals and "Calling on" signals for Line No.1, setting over lap on Main Line.
2	L-1UNI	WHITE WITH BLACK DOT	Route button for Up & Down Home Signal and "Calling on" Signals for Line No.1, setting overlap on sand hump and common route button for shunt signals [Up & Down] for Line No.1
3	L-2 UN	WHITE	Common route button for Up and Down Home Signals and "Calling on" signals and shunt signals for Line No.2

4	L-3 UN	WHITE	Common route button for Up and Down Home Signals and "Calling on" signals for Line No.3, setting overlap on Main Line.
5	L-3 UNI	WHITE WITH BLACK DOT	Route button for Up & Down Home Signal and "Calling on" signals for Line No.3, setting overlap on over-run line and common route button for shunt signals [Up & Down] for Line No.3
6	12 AT UN	WHITE	Common route button for Down Starter Signals No.6, 8 and 10.
7	2 T1 UN	WHITE	Common route button for Up Starter Signals No.5, 7 and 9.
8	11 UN	WHITE	Route button for Up Advanced Starter No.11.
9	12 UN	WHITE	Route button for Down Advanced Starter No.12.
10	Group [TRANS]	WHITE WITH BLACK DOT	Common trans button for crank handle and siding control.
11	GROUP [Released]	BLACK WITH WHITE DOT	Common release button for crank handle and siding control.

4.2 DESCRIPTION OF OTHER BUTTONS:

Sl	Button Nomenclature	Colour	Description
1	Power Acknowledge ment	WHITE	To stop the power failure buzzer.
2	Emergency point operation	BLACK WITH RED DOT	For operation of points in case of when point zone track circuit failed.
3	Emergency Route Release	WHITE WITH RED DOT	For Release of Route in case of emergency.
4	Signal Cancellation	RED	For conciliation of any signal in case of emergency.
5	Button Held Ack.	WHITE WITH RED DOT	To stop the button failure buzzer.
6	Signal Lamp Failure & Point Failure	RED WITH WHITE DOT	To stop the signal lamp point failure buzzer.
7	CH1 & CH2	BLUE	For operation of Crank Handle.

5.0 POWER FAILURE INDICATION/BUZZER AND POWER ACKNOWLEDGEMENT:

Normally Auxiliary transformer is connected to OHE traction distribution, if power supply fails a RED indication appears on the panel along with an audible buzzer. The Station Master on duty shall change over the switch to local supply and restore the power supply.

When the normal Auxiliary power supply is restored an audible buzzer again rings and the RED light on the panel extinguishes. The Station Master on duty shall operate the changeover switch and press the acknowledgement button to stop the audible buzzer.

5.1 SIGNAL LAMP FAILURE INDICATION [RED]/SIGNAL LAMP MUTING BUTTON [RED WITH WHITE DOT]:

Main filament indication are given in the panel in groups i.e. Dist. Main Filament Failure, Home/Adv. Main Filament, Starter Main Filament in both UP & Down directions.

Whenever Main filament of a signal lamp is fused, main filament failure RED indication starts flashing along with an audible buzzer. The Station Master on duty then shall press the acknowledgement button, buzzer stops and the RED indication becomes steady. The Auxiliary filament of the lamp will continue to burn at the signal at site, if the Auxiliary filament of the lamp also fuses, WHITE indication starts burning with an audible buzzer. The Station Master on duty, when presses the acknowledgement button, the buzzer stops but the signal lamp failure WHITE indication continues to glow till the particular signal lamp is replaced or the aspect of the signal is changed.

5.2 BUTTON FAILURE INDICATION [WHITE]/BUTTON HELD BUZZER[WHITE WITH RED DOT]:

Whenever any button remains held up in pressed condition, button held WHITE indication starts flashing along with an audible buzzer. The Station Master on duty, then acknowledge it by pressing the "Button Held' button. The buzzer stops, where as the WHITE indication continues to flash till the same is rectified.

6.0 TRACK CIRCUIT:

At this station all the berthing lines [Loop Line & Main Line) and point zones are provided with Track Circuits to indicate the occupation/clearance of berthing/point zone portion. Starters will automatically be replaced by point zone Track Circuits Last Vehicle Track (LVT) and First Vehicle Track (FVT) are provided near Home and Advanced Starter Signals for their automatic replacement and release of block instruments. In addition five (5 RL) rail length track circuits are provided near Up & Down Home Signals for control of "Calling on Signal". Indication panel is installed in station to indicate the occupation/clearance of track circuits.

6.1 When a train is to be dispatched from the station yard on signals the Station Master on duty must ensure that the route between the starter signal and the Block section limits, demarcated by the Advanced Starter, is clear of any obstruction, [which includes point zones track circuits on the route also] before he takes 'Off' departure signals.

6.2 CRANK HANDLE FOR EMERGENCY OPERATION OF POINTS:

Crank Handle is interlocked with the Signalling and Interlocking system at this station and the crank handle which is normally locked up in the RKT instrument at the station can be taken out when all the signals are in the 'Normal' position and the route is not locked, for any reason. If the route is also locked, the crank handle can be extracted from the RKT through Emergency operation by pressing crank handle button along with 'Group Trans' button. The release can be effected by pressing the 'Push Button' for its release, and when this Key is taken out, the Signals, leading over to the particular Point in either direction cannot be taken 'OFF' [Further details are explained in Item No.21.0 of Appendix 'B'].

6.3 When ever a light vehicle/vehicles including self propelled vehicles such as motor trolley or a four wheeled Tower wagon passes over track circuit zone, Station Master shall satisfy himself that the indications whether occupation or clearance are indicated in-conjunction with the movement of the vehicle/vehicles. If such indications are not appearing on the panel as above Station Master on duty shall physically verify the clearance of the Track Circuit zones, and shall not permit any other movement over the said lines unless the clearance is confirmed by Station Master himself personally.

6.4 TRACK CIRCUIT ZONES PROVIDED AT THE STATION:

Track Circuit Zone:
1AT, 1T, 18T, 12AT, 14/16AT, 16BT, 14BT, 23T, L1T1, L1T2, L1T3, L2T1, L2T2, L2T3, L3T1, L3T2, L3T3, 15BT, 13/15AT, 13BT, 2T1, 2T, 2AT.

6.4 IMPORTANT NOTE:

When performing shunting operations in the sidings it must be clearly noted that the Siding points are interlocked with the system in the 'Normal' position of the points and in 'Reversed' position they are not interlocked. The official responsible for shunting operation must clamp the Points at both the ends before permitting any movement.

Whenever a light vehicle/vehicles including self propelled vehicles such as motor trolley or a four wheeled Tower wagon passes over track circuit, Station Master shall satisfy himself that the indications whether occupation or clearance are indicated in-conjunction with the movement of the vehicle/vehicles. If such indications are not appearing on the panel as above Station Master on duty shall physically verify the clearance of the Track Circuit, and shall not permit any other movement over the said lines unless the clearance is confirmed by Station Master himself personally.

6.5. i). HOT AXLE SIDING:

The Hot Axle siding take 'off' from 2nd loop line (line No.3) [at KTV end of the yard] and is isolated by derailing switches at both ends. Hot Axle vehicle with engine can be placed perfectly with clear space having available with CSL of 52 M.

The entrance point and the corresponding derailing switch are coupled and operated by Arc lever provided at site, at either end of siding. Hand plunger locks fitted at the entrance point of KRDL end will be unlocked by key released from RKT provided at Station Master's office by pressing Hot Axle siding control button No.23 in conjunction with "Group Trains" button. After unlocking the siding point, it shall be set reversing Arc lever at site with Key 'P'. Key 'P' released from KRDL end point shall be inserted at KTV end and shall be unlocked for operation of KTV end siding point. When the key extracted from RKT all Up & Down reception signals and dispatch signals of 2nd loop line [line no.3] will be held locked in their normal position.

ii). SUB-STATION SIDING:

The Sub-Station siding takes 'off' from 1st loop line (line no.1) [at KTV end of the yard] and is isolated by derailing switch and terminates into a dead end. Vehicles with engine can be placed perfectly with clear space having available with CSL of 88 MT.

The entrance point and the corresponding derailing switches are operated with successive key locking. Hand plunger locks fitted at the entrance point at KRDL end will be unlocked by key released from RKT provided at Station Master's office by pressing sub-station siding control button No.20 in conjunction with "Group Trans" button. After unlocking the siding point, it shall be set reverse which releases Key "M". Key "M" released from KRDL end point shall be inserted at corresponding point at KTV end and shall be unlocked for operation of KTV end siding point. When the key extracted from RKT all Up and Down reception signals and dispatch signals of 1st Loop line [Line No.1] will be held locked in their normal position.

Sub-station siding is provided with track circuit at point zones only.

Hot Axle vehicle with engine should be placed perfectly in the clear space [CSL] available in the Hot Axle siding/Sub-station siding i.e. clearing the track circuit zone from either end of the Hot Axle siding, then only the track circuit zone where such movement taken place will show clear indication.

7.0 STATION MASTER'S KEY:

The panel is also fitted with Station Master's lockup key (which shall be in personal custody of SM on duty) to prevent un-authorized operation of this panel but with the arrangement to put back the Signal to the 'ON' position in case of emergency without altering the route even when the panel is in locked position.

8.0 EMERGENCY OPERATIONS:

The following are the instructions for emergency operations.

8.1 CANCELLATION BUTTON AND VEEDER COUNTERS:

For the purpose of emergency operations, there is an emergency 'Route Cancellation' and also there is a 'Veeder counter' for counting emergency operations involving the concurrent operation of the emergency route cancellation button. The Station Master on duty must press the emergency route button along with concerned signal button for which emergency route release is required. An 'YELLOW' indication will appear below the signal indicating that the timer has started operation and after lapse of 120 seconds the desired route will be released.

8.2 The numbers on the Veeder counters register the number of operations performed for such emergency cancellation and the Station Master on duty should specify the cause for such usage giving the particulars of cause and the time of operation as related to a particular train etc., in the train Signal register. The detailed operation instructions are as follows.

8.3 CANCELLATION OF UN-INTENDED LOCKING OF POINTS:

Whenever there is un-intended locking of any points [indication by RED indication lamp near the concerned point] such a locking has to be released [after ensuring concerned signals are in the Normal position] by concurrently pressing the 'Emergency group cancellation button [provided at the center of the panel] and the concerned signal button provided the track circuits are clear and are in working condition. This operation is counted on the Veeder counter/counters, as already pointed out.

8.4 CANCELLATION OF LOCKING OF ROUTE AND POINTS AFTER THE SIGNAL HAS PUT BACK TO 'ON'.

"OR"

THE SIGNAL HAS GONE BACL TO "ON" EITHER AFTER THE MOVEMENT OF THE TRAIN IS CANCELLED.

"OR"

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

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

a). Firstly the signal has to be put back to the 'ON' position.
b). Emergency route cancellation operation must be initiated as detailed in Para 8.1

8.5 EMERGENCY OPERTIONS:

Cancellation of the locking of points not released after the passage of the train for any reason, if the locking of the route does not get released for one reason or the other after passage of the train, it is necessary to take recourse to the following emergency operations.
a). Firstly it must be ensured that the signal is in the 'ON' position.
b). Operation as detailed in Para 8.1 to be followed.

9.0 NUMBERING OF POINTS:

a). No.13 crossover points between Main line and 1st loop line with a over-run line on 1st loop line at KRDL end.

b). No.15 crossover points between Main line and 2nd loop line with a Sand hump on 2nd loop line at KRDL end.

c). No.14 crossover points between Main line and 2nd loop line with a over-run line on 2nd loop line at KTV end.

d). No.16 crossover points between Main line and 1st loop line with a over-run line on 1st loop line at KTV end.

10.0 EMERGENCY OPERATION OF POINTS [IN CASE OF POINT ZONE TRACK CIRCUIT FAILURE]:

The Station Master on duty can operate points from panel, in case of point zone track circuit fails. The Station Master on duty after physical verification insert the SM's emergency point key and turn it to get the key, 'IN' position. Keeping the emergency point key in that position, the Station Master on duty must press the individual point button along with Emergency point operation button [BLACK WITH RED DOT].

He shall then, release the Emergency point operation button only, and press the point group NORMAL or REVERSE button as per requirement, keeping the individual point button in pressed condition. Point will be set to NORMAL or REVERSE position as per operation. During this initiation one 'RED' indication will appear above the Emergency operation button. This operation will be registered in and 'Emergency point operation counter' placed above the Emergency point operation button.

11.0 INTERLOCKING OF SIGNALS:

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

11.2 Advanced starters are interlocked with respective Token less Block Instrument in "sending" position i.e "Train Going To" position.

11.3 Home signals are interlocked with respective Token less Block Instruments. The Block Instruments cannot be made to "Normal" unless the respective Home signals are in "Normal" position.

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

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

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

Relay room/ relay hubs/goomties/Gate goomties/cabin housing are provided with two independent locks. The key of one lock shall be in the personnel custody of Station Master on duty and the key of other lock shall be in the custody of S&T Maintainer. In the event of necessity such as for attending failure, or regular maintenance, on being requisitioned by S&T maintainer, SM shall hand over the key to the Maintainer.

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

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

13.1 The regular maintenance of the S&T installation and adherence to the schedules of maintenance as also to the mandatory schedules of testing of points, Track Circuits, Signals, Ground Frames, the associated interlocking apparatus i.e., cables and finally the interlocking functional tests is a must for the safe and satisfactory working of these installations at the station.

13.2 The tests, checks and re-placements etc. include overhauling shall confirm to the schedules of the maintenance as indicated in the Signal Engineering Manual as also in the current and extant instructions/circulars on the subject.

14.0 PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL AND INTERLCOKING INSTALLATION:

14.1 Whenever there is a failure of block instrument Points, Track Circuits, Signals, or any other interlocking gear at the station, the failure report should be communicated by the Station Master on duty through a memo to the Sectional Maintainer and the JE/SE(Signal) of the section along with others as per G & SR 3.51.04 and 3.68.04 and document all such transactions.

14.2 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

However, before declaring a Signal as defective the setting of the Point on the route to which it applies shall be inspected by the Station Master on duty in terms of SR 3.68.01(c).

14.3 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

It is only after receipt of this information the Sectional Maintainer [Electrical or Mechanical] shall attend to the failure after giving a disconnection memo. After rectification of the fault, the Sectional maintainer shall give a re-connection memo detailing the rectification and it is only after the Station Master on duty has personally checked this defective gear and is satisfied that it is in good and proper working order, he shall resume the normal working of the said defective gear in terms of SR 3.68.04[c] and [d].

15.0 PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORKS:

Whenever any normal maintenance or special works for heavy renewals etc., are involved, these works should be pre-planned by the Signal and Telecom field staff and the JE/SE(Signal) of the section should give to the Station Master in writing "Advance intimation" about this planned work in terms of G & SR 15.08.01.

16.0 EMERGENCIES:

Not withstanding anything contained in the aforesaid paras Nos.14.1, 14.2 & 14.3, when a gear is found to be defective and un-safe for passage of trains, the Signal and Telecom staff must at once suspend the working of the gear and the associated installations, and issue a "Suspension Memo" explaining the seriousness of the defect or damage to the interlocking installation to the Station Master and take Station Master's acknowledgement. After this, the usual practice of exchange of disconnection memo and reconnection memo can follow and the Station Master must promptly act on such messages and take adequate precautions treating the S&T installation as defective and pass the trains over the affected interlocking gears according to extant instructions as contained in G & SR 3.77.

17.0 SIGNAL LIGHTS:

The Station Master on duty must also ensure from panel board that all the signal lights are burning properly. This fact must be recorded in the diary under a separate entry and confirm to the Section Controller on duty as per the instructions contained in Divisional Safety Circular No. 82/82, dated 02.05.1982 and GR 3.49(3).

18.0 CORRECTING TIME IN STATION CLOCK:

The Station Master shall set the time on his clock according to the time signal given by the section controller on duty at 16:00 hours every day according to G & SR 4.01.01 and 4.01.02.

19.0 NORMAL POWER SUPPLY:

The station works on 230 volts single phase power supply. The normal power supply is from Auxiliary transformer connected to OHE Traction Distribution.

19.1 STANDBY POWER SUPPLY:

Local power supply is available at this station as standby with a change over switch arrangement.

POWER SUPPLY ARRANGEMENT FOR SIGNALLING INSTALLATIONS:

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

Normal supply from AT connected to OHE traction distribution [230V 50HZ].
(i)Stand by supply:- Chattisgarh State Electricity Board Supply.

DG Supply NOT Provided at this Station

Normal power supply [Single-phase 230V-50 HZ] to the Signalling and interlocking installation at the station is drawn from the traction power sources through AT's.

Whenever traction power supply fails the SM on duty shall operate the changeover switch provided in the SM's office connecting the power supply from the healthy sources to the installation in case of the knob is not in Auto mode.

The SM on duty however maintain the record of power failures either of the traction supply or local supply and he must promptly report the failure of any one or both the power sources immediately through the section controller and to the concerned Elect. Staff and S&T Maintenance staff.

i). An auto change over switch is provided in the SM's office with the two power supplies viz., AT and local for the changing the switch automatically to the supply available. The availability of the supply is indicated by luminous indicator above the circuit breaker for each supply.

NOTE: If power block is to be given on the UP line DN AT must be available and vice versa.

ii). In case of failure of one of the AT supply without any power block the on duty SM has to check whether the circuit breaker has tripped [Two circuit breakers are provided in the changeover switch board, one for each supply and their normal position is down and when tripped it goes UP].

In case of failure of both AT supplies without any power block the local supply shall be utilized by operating the changeover switch. If the circuit breaker is tripping even after resetting, no attempt shall be made to hold it by any means and a message shall be given to concerned SSE [Elect.] and SSE/PSI [OHE] for prompt rectification.

iii). Whenever there is failure of power supply in one AT the SM on duty shall take prompt action to inform to all concerned for rectification.

The on duty SM himself during each shift shall check & test the availability of power supply on both ATs and make an entry in the station dairy duly initiating for rectification of failure if any.

iv). For IPS system that provides power to EI, a manual changeover switch is provided at SM's Office with the two power supply viz., selected supply from CLS panel and Local supply for changing the switch to required supply position manually.

v). Normally manual changeover switch is kept in selected supply from CLS panel position, if in case any emergency changeover switch is changed to Local supply position.

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

19.2 NORMAL POWER SUPPLY MAINTENANCE OF POWER SUPPLY, POWER FAILUE AND REPORTING SUCH FAILURES:

Normal power supply to the Signalling and Interlocking installations at this station is drawn from the Traction power supply sources [at 230-V/50 HZ]. Whenever Traction power supply fails the Station Master on duty has to operate the changeover switch [provided in the Station Master's office] connecting the power supply from the healthy source to the installation.

The Station Master must, however, maintain the record of the power failure of the traction supply and he must promptly report the failure immediately to the Section Controller and to the concerned electrical and S&T maintenance staff.

20.0 WORKING OF POINTS-POSITION OF POINTS:

The normal position of all points shown in the Station Working Rule Diagram No. S.I/WRD 10723 ALT 'F' and also in the mimic indication panel provided in the Station Master's office.

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

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

20.3 All siding entrance point [on the running lines] and the corresponding derailing switches on the sidings are coupled and locally operated by Arc levers provided at site. The entrance points are provided with Hand plunger locks with key locking arrangements, the key being released from the RKT instruments. The siding entrance points controlling key is interlocked with the interlocking and signalling system through the RKT as explained in earlier paras of Appendix 'B

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

21.1 Whenever a signal or a point becomes defective any movement over the points on the running lines should be made after ensuring clamping and padlocking both the facing and trailing points by Station Master on duty personally for all trains at this station.

21.2 In case of failure of signal or a point and in case the point cannot be operated from the panel the emergency Crank Handle which is interlocked with the system is to be extracted and the following procedure has to be adopted.

21.3 One common crank handle is provided for east side points & one common crank handle is provided for west side point. This is mechanically riveted to the Key of RKT. This key along with crank handle can be released from the RKT by pressing the crank handle push button in conjunction with 'Group Trans' button. All signals will be locked in the "Normal" position as soon as this crank handle is released from the RKT. The Station Master on duty in case of point motor failure, will takeout the crank handle and set the point manually by inserting crank handle on the motor.

21.4 When the crank handle is removed from RKT for operation of the defective motor operated points the responsibility for its safe custody rests with the ASM/SM on duty till it is replaced back in RKT and sealed by Signal Maintainer and padlocked by SM/ASM on duty.

21.5 The cases of failure of motor operated points should be promptly reported to the concerned SSE/SE/(Sig)/ESM for immediate rectification.

21.6 Whenever an emergency crank handle is required to be used by a Signal Official for maintenance work or attending to failure, the signal official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency crank handle register, the Station Master on duty will obtain the acknowledgement of the signal official in the Emergency Crank Handle Register and then hand over to him the Emergency Crank Handle for the points concerned. The concerned points will be treated as defective till the emergency crank handle is returned back to Station Master on duty.

21.7 Before parting with the emergency crank handle either for attending failures or for maintenance work by signal maintenance officials, the Station Master on duty will ensure that the reception and departure signals are maintained at 'ON' position. The points for the affected lines should be treated as non interlocked and the Station Master on duty is responsible for introduction of non-interlocked working and the trains will be piloted 'IN' and 'OUT' duly clamping and padlocking the points over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of points for reception and/or dispatch of all trains.

21.7.1 The Emergency Crank Handle Register is to be maintained in the following proforma by the SM on duty wherein the particulars of the usage of the Emergency Crank handle must be recorded vide Note item (d) of OM 20.06(f).

1 Date
2 Point No. which failed or required to be tested.
3 Time of failure.
4 Disconnection memo No. received from S&T staff.
5 Signature of SM/Signal Official to whom the emergency crank handle is sent out.
6 Time emergency crank handle is sent out.
7 Individual point Nos. and line number nominated for admission or dispatch for which points are set, clamped and padlocked.
8 Train No. to be admitted or dispatched.
9 Signature of the SM to ensure correct setting, clamping and padlocking of the points.
10 Date and time fault rectified.
11 Time emergency crank handle received back by SM on duty.
12 Signature and designation of the signal official who rectified the fault.

IMPORTANT NOTE:

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

22.0 INTERLOCKING OF SIGNALS WITH BLOCK INSTRUMENTS:

22.1 INTERLOCKING WITH HOME SIGNALS:

The Up and Down home signals are interlocked with respective token less block instruments in such a way that unless the home signals gone back to 'ON' position, the instrument handle cannot be turned from 'TCF' position to line closed position.

22.2 The Up and Down advanced starter signals are interlocked with the respective token less block instruments, so that these signals cannot be taken 'OFF' until the handle of the concerned token less block instrument is in "Train Going To" position.

22.3 SUSPENSION OF LAST STOP SIGNALS:

When the Token less Block Instrument is suspended with its handle in “Train Going To” position the concerned Last Stop Signals controlled by Token less Block Instruments must be treated as suspended and trains shall be piloted out.

22.4 SLIP SIIDNG POINT:

Slip siding point is interlocked with block instrument of section BHNS-KMLR so that it will not be possible to set the slip siding point to running line, unless the handle of the block instrument is either in “Train Going TO” or “Train Coming From” positions. Similarly the handle of the block instrument cannot be made normal, unless the slip siding point is in its normal position, i.e. to slip.

22.5 BURNING OF SIGNAL LIGHTS:

The Station Master on duty shall not grant “Line Clear” unless he has ensured that the lamps of signals, which apply to the train, are burning. If the Signal Lights cannot be kept burning the Station Master on duty shall before giving line clear initiate action in accordance with the procedure prescribed in GR 3.68 to 3.72 and relevant SR’s vide GR 3.49(4).

23.0 NORMALISATION OF THE BLOCK PROVING AXLE COUNTER AND BLOCK AXLE COUNTER RESETTING FEATURE:

Digital axle counter is provided between BHNS-KMLR single section for last vehicle verification. The occupation and clearance of the axle counter section is indicated in the reset box provides in SM's office by 'Red' and 'Green' lights respectively.

If Block proving Axle counter fails, the Last stop signal at the rear station cannot be taken 'OFF' and Block instrument at receiving station cannot be turned to "Line Closed" position after arrival of a train and in such a case, resetting of last vehicle checking device is to be resorted to. After complete operation of resetting, LVCD axle counter reset box will display 'Section clear' indication only after the passage of next train which is to be piloted out. No train should be allowed or s era to leave a station in any particular direction unless clear indication is available for the relevant axle counter portion and Last stop signal is not taken 'OFF'.

A resetting arrangement is provided in the SM office to reset the system to normal position in case of failure of axle counter. The resetting to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at both the ends of the block section. A reset box with digital counter is provided for resetting the axle counter of the LVCD. Its key shall be with SM. Each operation of resetting is registered in the counter. SM shall record the reason for resetting, date, time in the axle counter reset register.

24.0 RESETTING OF LVV DIGITAL AXLE COUNTER:

Digital Axle Counters are provided as a Last Vehicle Checking Device (LVCD) for Both Block sections between BHNS-KMLR and BHNS-BCHL.

For high reliability, High Availability Digital Axle Counters (HASSDAC) with dual detections are installed in BHNS-KMLR and BHNS-BCHL section to ensure the working of at least on system at a time.

High Availability Single Section Digital Axle Counter (HASSDAC) consists of two Single Section Digital Axle Counters (SSDACs) are connected in parallel so that even anyone of the SSDAC fails which will not affect the system. These two Axle counters are named as SSDAC-1 and SSDAC-2. The status of each SSDAC is provided on the Reset box which is provided on the SM table.

S.No	Indication	Automatic action taken by Equipment	Action by SM
1.	Only SSDAC-1 fails after arrival of the train	System resets automatically	NIL
2.	Only SSDAC-2 fails after arrival of the train	System resets automatically	NIL
3.	Both SSDAC-1 & 2 Fails after arrival of the train (or)for any reason	No automatic action	SM to reset the system as procedure laid down in the Para No.6.1 and make an entry in the axle counter register.
4.	Both SSDAC-1 & 2 Fails even after reset by SMs of both the end	No automatic action	Enter in Signal Failure Register issue failure memo to signal technician. Procedure to be adopted is same as laid down.
5.	Either SSDAC-1 or SSDAC-2 fails continuously for long time	--------	Report to signal staff without entering in signal failure

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

After complete arrival of the train the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of a train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR.14.13 is to be followed. The axle counters are interlocked with the respective block instruments for that section.

If Axle Counter fails, Advanced Starter signal shall not come to 'OFF' and the concerned instrument shall remain locked in last operated position for that section.

In case of failure of both the Digital Axle Counters, the SM on duty should resort to resetting of the same along with the SM on duty of adjacent station after confirming that the whole of the train sent by sending station has been arrived at the receiving station. The resetting of the LVCD shall be initiated as mentioned below at both the stations after exchanging the Private Number vide G&SR 4.17, 4.17.01.

A Reset Box is provided on SM's table for each block section to reset the Axle Counter in case of failure of both the systems i.e HASSDAC. Reset Box gives the status of the block section i.e. Clear (GREEN), occupied (RED), preparatory reset (Miniature GREEN) and power on indications (WHITE). It also having the Reset Key, push button for resetting the LVCD and a counter is provided to record the operation.

Reset Box gives the status of the track portion of 26XTi.e. Clear (GREEN), occupied (RED), Line verification (Miniature YELLOW) and power on indications (WHITE). It also having the Reset Key, push button for resetting the 26XT and a counter is provided to record the operation.

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

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

Auto Dialing:-

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

APPENDIX 'C' TO STATION WORKING RULES OF BHANSI STATION

ANTI COLLISION DEVICE (RAKSHA KAVACH)

Not applicable to this station

APPENDIX 'D'

DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2. STATION MASTER:

a) He is responsible for trains passing during his shift.
b) He shall promptly bring to the notice of SM in-charge all irregularities and accidents in course of his shift duties.

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

d) He shall follow SR 3.68.01(c) and (d) SR 14.07.l and OM Chapter-2.
e) His special attention is drawn to Chapter-2 of G&SR 1976 and GR 5.01 to 5.08 with relevant SRs.

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

g) He shall always obey the lawful orders of his superiors so long as they do not contravene any of the extant rules in force.
h) He shall keep the Station Master's control keys of Block Instruments/Control Panel in his personal custody whenever, he is required to leave his office even for a short duration.

i) He shall be responsible for correct issuance of caution order, whenever required.
j) As an assistant to SM, I/C, he shall carry out the instructions given from time to time.

3. TRAFFIC POINTSMAN:

i) He shall work under the orders SM on duty.
ii) He shall be in proper neat and clean uniform while on duty.
iii) He shall always commence his duty equipped with hand signal lamps during night and flags during day.
iv) He shall couple and uncouple vehicles under the supervision of SM.
v) He shall watch and guard the packages and other Railway property lying in the Station premises.
vi) He shall report any irregularities coming to his notice.
vii) He shall do loading and unloading of parcels, smalls and Guard's boxes. He shall do piloting IN and OUT.

viii) He shall deliver any official message to the proper person/office. He shall carry out any other duties entrusted to him by the SM on duty.
ix) He shall not leave his duty unless properly relieved or authorized by his superiors.
x) He shall follow OM Chapter-2.

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

APPENDIX 'E'

ESSENTIAL EQUIPMENT:

A List of essential equipment is given below vide OM 20.04(11), which shall be maintained in good working order.

SL.	EQUIPMENT	STATION
1.	Detonators	10
2.	Hand signal lamps	04 (2 Spare)
3.	Hand signal flags	04 Sets (2 sets spare)
4.	Clamps with pad locks (50 mm)	11
5.	Safety chains with padlocks (75 mm)	06
6.	Fire and sand buckets	5
7.	First aid box	1
8.	Stretcher	1
9.	Blanket Woolen	1
10.	Minimax Fire Extinguishers	1
11.	Iron Skids	2

APPENDIX 'F' TO STATION WORKING RULES OF BHANSI STATION

-----NIL ------

APPENDIX 'G' TO STATION WORKING RULES OF BHANSI STATION

Details of the working for 25 KV AC Traction of "BHANSI" station, which are in force stands good.