

EAST COAST RAILWAY
WALTAIR DIVISION

CABIN WORKING INSTRUCTIONS OF BACHELI 'A' CABIN (B.G)

Date of Issue: _____.

Date brought into Force: _____.

NOTE: The Cabin Working instructions must be read in conjunction with General and subsidiary Rules, Operating Manual and Block Working Manual. These rules do not in any way supersede any rules in the above Rule Books.

1. STATION WORKING RULES DIAGRAM:

- (i) The Station Working Rule diagram no: SI/WRD/23165. ALT 'A'
(ii) CSTE/East Coast Railway Signal Interlocking Plan No: SI/23165. ALT'A'

2. DESCRIPTION OF STATION:

3. GENERAL (LOCATION):

a)Name of the station:	BACHELI 'A' Cabin
b)class of station:	Siding
c)Double line/Single line:	Single line
d)Electrified/Electrified:	Electrified
e)Gauge BG/MG/NG:	BG
f)Railway:	East Coast Railway
g) Route	'D' special
h) Situated at	Km-437.985 F/BCHL station
i) Reckoned from	Kottavalasa
j) No. of cabins	Centrally operated panel.

4.GRAIENTS:

From Take off point for Bi- direction:

Chainage in Meters from Take off point		Stretch	Gradient
From	To		
0.000 (1530M F/CSB)	169.50M (1361M F/CSB)	169.50M	1 in 80 raising
169.50M(1361M F/CSB)	219.50M(1311M F/CSB)	50M	Level

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From	To	Stretch	Gradient
219.50M(1311M F/CSB)	1481M(49.50M F/CSB for uniflow & Loading line	1261.50M	1 in 130 falling
1481M(49.50M F/CSB)	2747M (1216M F/CSB for Uniflow, Loading lines Reception yard)	1266M	Level
2747M	Towards Loading lines, reception yard	--	1 in 400 raising

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2.4 (A) LAYOUT:

Sl. No	Running/Non Running line	Electrified/ Non-Electrified
1	Running line / NMDC Line No.1(Reception yard)	Electrified
2	Running line / NMDC Line No.2(Loadng line, Hump)	Partly Electrified
3	Running line / NMDC Line No.3(Loadng line, Hump)	Partly Electrified
4	Running line / NMDC Line No.4(Engine R/R/ line)	Electrified
5	Running line / NMDC Line No.5(Engine R/R/ line)	Electrified
6	Running line / NMDC Line No.6(Loadng line, Fines)	Partly Electrified
7	Running line / NMDC Line No.7(Loadng line, Fines)	Partly Electrified
8	Running line / NMDC Line No.8(Engine line)	Partly Electrified
9	Running line / NMDC Line No.9(Loadng line for BLD 10 & 11A)	Partly Electrified
10	Running line / NMDC Line No.10(Loadng line for BLD 10 & 11A)	Partly Electrified

(B) HOLDING CAPACITY IN CSR:

Line no	Designation	CSL	Electrified/Electrified	CSL starting & destination
NMDC Line no. 1	NMDC Line	1318 M	Electrified	SIG to SB
NMDC Line no. 2	Loading line (Hump)	744M	Partly Electrified	SH to STR
NMDC Line no. 3	Loading line (Hump)	744 M	Partly Electrified	SH to STR
NMDC Line no. 4	Engine R/R/line	744M	Electrified	SH to STR
NMDC Line no. 5	Engine R/R/line	744M	Electrified	SH to STR
NMDC Line no. 6	Loading line (Fines)	744M	Partly Electrified	SH to STR
NMDC Line no. 7	Loading line (Fines)	744M	Partly Electrified	SH to STR
NMDC Line no. 8	Engine R/R/line	804M	Partly Electrified	SH to STR

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Line no	Designation	CSL	Electrified/Electrified	CSL starting & destination
NMDC Line no. 9	Engine line	734M	Partly Electrified	SH to STR
NMDC Line no. 10	Loading line for BLD 10 & 11A	734M	Partly Electrified	SH to STR

2.5. ANY SPECIAL FEATURES IN THE LAYOUT:

- (i) For every slot transmission between BCHL and 'A' cabin for reception/dispatch of trains, it should be supported with private number exchange between the SM/BCHL & SM/ of 'A' cabin.

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2.6 LEVEL CROSSINGS: NIL

3. SYSTEM AND MEANS OF WORKING:

System of working: Inter slotting arrangement between BCHL & 'A' cabin.

4. SYSTEM OF SIGNALLING AND INTERLOCKING:

- 4.1 a) Standard of Interlocking: The cabin is provided with panel Interlocking.
b) Type of signals: Multi aspect colour light signals. The aspects and indications of the MACLS is governed by GR 3.08(4) (b).
c) The cabin and is provided with panel interlocking. All signals and points are electrically operated from panel provided at SM's office of 'A' cabin.
d) Method of operation: Individual Panel Boards are provided with SM at Bacheli station and SM with 'A' cabin. Concerned points and signals will be operated with Panel board with SM 'A' cabin along with slotting system between both SM/A cabin and SM/BCHL by exchanging private number.
e) Provision of track circuits and axle counters:
The following track circuits are provided at BCHL 'A' Cabin:
5T, 60AT, 115T, 117T, 45AT, 43AT, 41AT, 109T, 21T, 110T, 112AT, 112BT, 14AT, 108AT, 108BT, 106T and 102T.
The following analog axle counters are provided at BCHL 'A' cabin.
113XT, 107XT, 103XT, L1AXT, L2AXT, L3AXT, L4AXT, L5AXT, L6AXT, L7AXT, L8AXT, L9AXT, L10AXT, 127XT, 123XT and 119XT,
When a signal is cleared, the particular route appears with white strip of lights and 'Red' light appears as the train occupies the track circuit.
f) Calling-on signals/IBS: Calling-on signal C-5 is provided below S-5 signal.
g) IBS – NIL.
h) Individual panels are provided with SM's key under the personal custody of Station Master on duty at BCHL station & 'A' cabin.

i) CRANK HANDLE:

When the point fails to operate through panel, it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles 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-20.06.

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Sl. No	CRANK HANDLE	CONTROL POINTS
1	CH1	101,103,105,107,109
2	CH2	110,111,113
3	CH3	108,112
4	CH4	102,104,106
5	CH5	115,117
6	CH6	119,121
7	CH7	123,125
8	CH8	127,129

These crank handles are interlocked with the signalling and interlocking system at this cabin 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

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reasons. Crank Handle can be released by pressing common 'TRANS' push button and concerned Crank handle control push button simultaneously. 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 at both ends locations of the yard for manual operation of the defective points.

The failure of motor operated points must be ensured by physical checking that there is no obstruction. SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency Crank handle register shall be maintained by the SM on duty at the station as per Para 20.06(d) of the Operating Manual. Correct setting, clamping and padlocking of the points devolve on the SM on duty. (Details of use of Crank Handle as per Appendix-'B').

The cases of failure of motor point, it should be promptly reported to the concerned signal maintainer/signal inspector for immediate rectification.

4.2 **SHUNT SIGNALS:**

The following independent shunt signals are provided in NMDC lines.

SH-7(A-I), SH-20(A-C), SH-18(A-C), SH-16(A-C), SH-45(A-E), SH-14, SH-47(A-D), SH-43(A-E), SH-41(A-E).

The following dependent shunt signals are provided in NMDC lines.

SH-56, SH-54, SH-52, SH-50, SH-48, SH-46, SH-44, SH-42, SH-40, SH-39, SH-37, SH-35, SH-33, SH-31, SH-29, SH-27, SH-25, SH-23, SH-21SH-12(A-D), SH-10(A-D), SH-8(A-D), SH-6(A-D), SH-4(A-D).

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

Relay room is provided with two independent locks. The key of one lock shall be in the personal custody of Station Master on duty and the key of other lock shall be in the custody of S&T Maintainer. In the event of necessity such as for attending failure, or regular maintenance, on being requisitioned by S&T maintainer, SM shall hand over the key to the Maintainer. On completion of the work, maintainer shall lock the relay room and shall return the key to SM. The particulars of such transactions shall be entered by the SM in the relay room key register vide OM 1.14.

4.4 **(A)POWER SUPPLY:**

Normal: AT-230V, 50Hz.

1st Stand by: - Local supply (Chattishgarh State Electricity Board Sly)

2nd standby: DG set.

(i) A changeover switch is provided in the Station Master's room with the three power supplies viz., AT, Local and DG for changing the switch to the required supply position.

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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% depth of discharge (DoD) of battery. In this condition audio/visual alarm comes, which can be acknowledged with audio cut-off.

(b) 60% DOD, which warns for emergency. The alarm for this condition is same as for condition 1.

(c) 70% DOD, which signals system, shut-down. In this condition signal feed is cut-off and all DC-DC converters continue working. Audio alarm continues till power supply is restored.

(d) Any of the module fails, which calls for 'call S&T'.

(e) Whenever there is a failure of power supply in AT or Local the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of power supply AT and Local and make an entry in the Station Diary duly initiating action for rectification of failure, if any.

5. TELECOMMUNICATIONS:

- 1) BSNL Telephone.
- 2) 25 watts VHF set.
- 3) Magneto phone to CH location boxes..
- 4) Telephone connection is provided between SM/BCHL.
- 5) Railway auto telephone is provided.
- 6) NMDC auto telephone is provided.

5.1 FAILURE OF COMMUNICATIONS:

- a) In the event of partial failure of communication SR 6.02.06 shall be observed.
- b) In the event of total failure of communication SR 6.02.04 shall be observed.

6. SYSTEM OF TRAIN WORKING:

WORKING OF TRAINS:

The movement of trains shall be regulated by the Section Controller on duty whose orders must be carried out provided they do not contravene any G&SR, OM, BWM and any other safe working principles. In the event of control being suspended the SM on duty of BCHL station shall work independently. The SM/Yard Master on duty is responsible for the internal movement in the yard. The reception of trains into the yard and the engine movements are controlled by the YM/AYM on duty.

Reception of trains from BCHL end via NMDC entry line:

On line clear enquiry message from SM/BCHL, SM 'A' cabin shall grant Line clear to SM/BCHL by releasing Slot 1 under exchange of Private number.

Before granting line clear, SM should ensure that:

- a) L/1(NMDC entry line) shall be clear and free of any obstruction.
- b) Line shall be clear upto signal no. 21
- c) All shunting operations infringing, the line nominated for reception of a train at his end of the yard, are suspended.
- d) Slot no. 1 shall be released to take off Home signal no.1.

Reception of trains from BCHL end via Uniflow line:

On line clear enquiry message from SM/BCHL, SM 'A' cabin shall grant Line clear to SM/BCHL by releasing Slot 3 under exchange of Private number.

Before granting line clear, SM should ensure that:

- a) Line nominated for receiving the train should be free of any obstruction
- b) Line shall be clear upto signal no.60
- c) All shunting operations infringing, the line nominated for reception of a train at his end of the yard, are suspended.
- d) Slot no. 1 shall be released to take off Home signal no.3

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The SS on-duty BCHL after getting the out report of an empty train from BHNS, which is intended for loading, will receive trains in the following ways:

1) Via Uniflow line :

- a) As per the instructions of Section Controller SM/BCHL shall inform to SM/A cabin that the train is intended to receive via uniflow line supported by PN. After receiving the information SM/A cabin shall nominate any of the fully wired vacant line i.e LYD –(L/4) , FYD—(L/5), NS – (L/8) and release the slot. After obtaining the slot SM/BCHL will lower the home signal.
- b) Before lowering the home signal SM/A cabin should ensure
 - L/1(NMDC entry line) shall be clear and free of any obstruction.
 - Line shall be clear upto signal no. 21
 - All shunting operations infringing, the line nominated for reception of a train at his end of the yard, are suspended.
 - Slot no. 1 shall be released to take off Home signal no.1
- c) The LP should stop at the nominated point and sign off after giving charge to the Shunter. The Shunter will draw ahead the train into RYD as per the instructions of SM/CYM/RYP and stop at a particular location to facilitate signing off the LP of the rear Loco and handing over charge to another Shunter. The SM/CYM(RYP) shall nominate a vacant line in RYD for reception of the empty rake accordingly.
- d) After arrival of the rake in to the yard completely the SM/YM will allow the shunter to back the entire empty rake into the nominated loading line by lowering the shunt signals.
- e) After placement the BV will be re-marshaled favorably towards the dispatch direction.
- f) After completion of more than 50% of loading, staff will be deputed to check and clear the line. At the same time C&W staff also will be informed duly attaching outgoing Loco towards KRDL end.
- g) After confirmation of completion of the loading, the loaded rake will be drawn on to any of the vacant lines in RYD by lowering the shunt signals. During the course of drawing out weighment will be done.
- h) If, there is no excess loads found, Loco will be reversed and dispatched to BHNS either via any of the fully wired vacant line in the loading yards (via Uniflow) or otherwise via entry line as per the possibility. The decision is completely on the SS/on-duty/BCHL.
- i) If there any excess loading is found, then also the Loco will be attached towards WAT and the loaded rake will be drawn on to the line nominated for load adjustment. NMDC officials will be informed well in advance regarding excess loading who in turn depute manpower for the load adjustment. After reception of confirmation regarding the load adjustment, the rake will bebe

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be dispatched via uniflow line directly.

2) Via Entry line:

- i) The LP of should stop at the nominated point in the R&D yard and sign off after giving charge to the Shunter.

However, after completion of loading the loaded trains will be dispatched, according to the procedure as mentioned above.

NOTE:

While giving placement the Match truck will be detached in the adjacent grid on the top of the line, clearing the fouling mark. The rake further pushed into the intended line. After placement of the rake in the loading line, the Match truck will be attached on train thereby the Match truck automatically reversed as rear most vehicle to the outgoing direction.

Despatch of trains from A cabin towards BCHL end via NMDC line:

Whenever a train is ready in all aspects to dispatch a train towards BHNS:

- a) SM/A cabin will inform the readiness of the train to SM/BCHL.
- b) SM/BCHL shall release slot 20 to A cabin for dispatch via Uniflow line.
- c) SM/A cabin shall take off the concerned starters.
- d) SM/BCHL shall take off last stop signal in accordance with rules laid down in GR 3.42and BWM 2.07(5)

Despatch of trains from A cabin towards BCHL end via Uniflow line

Whenever a train is ready in all aspects to dispatch a train towards BHNS:

- a) SM/A cabin will inform the readiness of the train to SM/BCHL.
- b) SM/BCHL shall release slot 22 to A cabin for dispatch via Uniflow line.
- c) SM/A cabin shall take off the concerned starters.
- d) SM/BCHL shall take off last stop signal in accordance with rules laid down in GR 3.42and BWM 2.07(5)

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6.1 DUTIES OF TRAIN WORKING STAFF:

The movement of trains is controlled by section controller on duty whose orders shall be complied with provided they do not contravene any provisions of General Rules, Subsidiary Rules, Station Working Rules, Block working manual and any 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 Stations and shall be responsible to ensure that there is no undue delay to train operation in general.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

STAFF IN EACH SHIFT:

SM	1
YM	1
TPM	3
TP	4

DUTIES OF OPERATING STAFF IN EACH SHIFT AT BACHELI 'A' CABIN:

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

1. Station Master SM/ASM

He is responsible for train passing duties. During his shift he is responsible for the general and satisfactory working of the Station and for the efficient discharge of duties by staff working under him. He shall keep all rule books, registers, files and documents, apparatus neat and tidy and instruments including signalling and interlocking gears and fittings are kept clean and oiled by S&T officials. His special attention is drawn to Chapter-II of G & SR and GR 5.01 to 5.08 with relevant SRs and OM Chapter-XXII. He shall promptly attend to accidents and report them. He shall supervise the work of safe working staff and conduct night inspections and report lapses of staff working under him. He is also responsible to submit all periodical and monthly returns/statements and the correspondence in time and as per schedule. He is responsible for train passing duties during his shift. He shall promptly bring to the notice SMR/BCHL, all irregularities and accidents in course of his shift duties.

2. Yard Master:

He is responsible for all the shunting operations in the RYD and A cabin. He shall follow the instructions given by SM on duty A cabin and carry out shunting .He shall ensure correct setting of points and locking. He shall monitor the movements like attaching and detaching of Locos/Brake vans.

3. TRAFFIC POINTS MAN:

He shall work under the orders of SM/ASM on duty. He shall couple and un-couple vehicles under the supervision of Dy.SS/SM/Guard. He shall operate ground lever/levers and clamp and padlock the necessary points for shunting operations. He shall watch and guard the packages and other Rly. / property lying in the Station premises. He shall be thorough with the correct usage of displaying hand signals. He shall report to SM on duty any irregularities coming to his notice. He shall do loading and unloading or parcels, smalls and guard boxes. He shall do piloting IN and OUT. He shall deliver any official message to the proper person/office. He shall carry out any other duties entrusted to him by the Station Master on duty.

4. SAFAIWALA-CUM-LAMPMAN:

He shall attend to the sanitation of Railway premises including SM's Office, platforms, staff quarters, latrines and cleaning of drainages etc. He shall carry out any work instructed to him by SM on duty

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

Note: Staff deployed at the station shall follow the roster issued by Sr.DPO/WAT.

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

The SM on duty is responsible to ascertain the clearance of the nominated line before granting slot to BCHL station with PN exchange.

The private number book should be under the custody of SM on duty who is authorized to use it.

6.1.3 **ASSURANCE OF STAFF IN ASSURANCE REGISTER:**

Any staff before taking independent charge of duties or any staff who is away from his duty for the period of 15 days or more shall sign in the Assurance Register for having understood the contents. However, in the event of any corrections or modifications in the SWR is involved, the assurance of all the staff who ever is entrusted with the work of train passing duty shall be obtained afresh in the assurance register by the in-charge of the station before they are allowed to work vide SR 5.01.02.

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

NIL

6.2.1.1 **SETTING OF POINTS AGAINST BLOCKED LINE:**

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

6.2.1.2 **RECEPTION OF TRAIN ON BLOCKED LINE:**

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

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

(A)SPECIAL RESTRICTIONS:

NIL

(B) SPECIAL INSTRUCTIONS:

(i) For every slot transmission between BCHL and 'A' cabin, SMs of BCHL and 'A' cabin shall exchange private numbers.

(ii) As per railway board letter no. 2012/safety (A&R)/ 19/5 dated 13.06.2013, UP signals. 23, 25, 27, 29, 31, 33, 35, 37& 39 and DN signals 40, 42, 44, 46, 48, 50, 52, 54 & 56 are placed at 3Metes in rear of the replacement track axle counter in order to enhance the CSL of respective NMDC loading line-2 to line-10. SM shall ensure precautionary measures while receiving or dispatching of trains.

6.4 **RECEPTION OF TRAINS:**

For reception of trains from BCHL yard into NMDC reception lines, slot to be received from SM/BCHL. The following are the details.

- (i) For reception of train on NMDC Line no.1 for S-3E, C-3E routes, slot no-1 to be received from SM/BCHL.
- (ii) For reception of train on NMDC Line no.2, for S-1A, C-1A routes, slot no.3 to be received from SM/BCHL.
- (iii) For reception of train on NMDC Line no.1, for SH(12A,14), S-4, S-6, S-8, S-10, S-12 routes, slot no.20 to be received from SM/BCHL.

6.5 **DISPATCH OF TRAINS:**

To dispatch of train from 'A' cabin from uniflow line/Entry line, SM/A cabin shall take off concerned starter signals.

6.6 **WORKING IN CASE OF FAILURE:**

a. **DEFECTIVE/DAMAGED POINTS:**

When any point fails to operate normally by route setting operation through panel, it is inevitable to operate the points with crank handle. The SS/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 shall be followed as per operating manual para 20.06.

Station master on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency crank handle register shall be maintained by SM at the station as per para 20.06(d) of the Operating manual. Correct setting, clamping and padlocking of the points devolve on SM on duty. (Details of use of crank handle as per Appendix-'B'). The cases of the failures of the point should be promptly reported to the concerned signal maintainer/JE/SE (signal) for immediate rectification.

7. **SHUNTING**

7.1 Shunting operations shall be carried out by taking off concerned shunt signals.

Shunting shall be carried out at the cabin in accordance with General Rule and relevant Subsidiary Rules and Block working Manual [Refer GR 3.46, 3.52 to 3.56, 5.13,5.14,5.16 to 5.23, 8.05,8.06, 8.14 and 8.15] with relevant SRs and OM 7.01, 7.07, 7.08 shall be followed.

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NOTE:

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

8. a. **(i)PROCEDURE FOR EMERGENCY OPERATION OF POINTS BY CRANK HANDLE:**

The detailed Procedure for emergency operation of points by Crank Handle of motor operated points shall be followed.

Crank handle operation is interlocked with the signalling and interlocking system at this station. Key of crank handles normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals leading over the points are in the

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Normal position and the route is not locked for whatever reasons. Crank Handle can be released by operating common 'TRANS' push button and concerned Crank handle control push button simultaneously. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted at both ends of the yard.

On account of the doubtful operation of any track circuit by a light vehicle including self propelled vehicle such as Motor trolley or light Diesel/electrical engine or tower wagon, indicating the occupancy of the track. It is necessary that SM on duty satisfies himself that the said vehicle has cleared point zone track circuits by observing the track indications of the track on either side of the cross over by positively checking the entrance and exit track circuits are showing occupancy and clearance in accordance with the train movement.

(ii) Procedure for emergency operation of points with point zone Track circuits failure and emergency route release:

Emergency point operation facility is provided to operate the point from the panel in case of failure of point controlling track circuit. A push button (Black with Red dot) for emergency point operation is provided on the top of the Panel. If such operation is necessary, the SM on duty, after ensuring that SM's point Key is 'IN' and no vehicle is standing on the concerned point zone shall press the emergency point operation button (by breaking the seal) along with relevant point button simultaneously.

Then keeping point button pressed, emergency point button to be released and the point group normal button or point group reverse button is to be pressed for operating the point to 'NORMAL or REVERSE. Every emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

Rules regarding locking of points and damaged points vide GR 3.39 and GR 3.77 to be followed.

Procedure for EMERGENCY ROUTE RELEASE

The Panel 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(a), the concerned signal must be put back to Danger by simultaneously pressing the signal cancellation button and concerned signal button. After this, first the emergency route release button (White with Red Dot) positioned on the top of the panel to be pressed after breaking seal and subsequently the concerned signal button is to be pressed. A white light will be lit indicating that the timer is working. After a lapse of 120 seconds the white light along with the white strip of light will disappear suggesting that the route has been released. In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to release by rectifying the fault. It is to be ensured that after every emergency route release operation S&T staff shall seal the emergency route release button.

Each operation of emergency cancellation of route should be recorded in the emergency route release counter register by registering the next higher number. All such operations and the new number should be recorded in the station diary counter register and in the train signal register.

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

i) All failure whether relevant to points, signals, track circuits, axle counters shall be promptly reported by SM on duty to the concerned S&T maintainer through a memo immediately and shall resume normal working only after rectifying the concerned gear at fault and obtained a memo from S&T maintainer concerned.

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

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9. ESSENTIAL EQUIPMENT AT THE STATION:

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

Sl. No.	Equipment	Station
1.	Detonators	10
2	Battery operated LED based flashing Hand Signal lamps	4(1 spare)
3	Hand Signal flags	4 (1 Spare) Sets
4	Clamps with Padlocks	12
5	Safety chains with Padlocks	8
6	Fire and Sand Buckets	5
7	Minimax fire extinguishers ((DCPT)	2
8	First Aid-Box	1
9	Blanket woollen	1
10	Stretcher	1
11	Skids	12

CERTIFICATE

NOTHING IN THESE RULES SHALL BE READ AS CANCELLING, AMENDING OR MODIFYING ANY GENERAL AND SUBSIDIARY RULES, BLOCK WORING MANUAL AND OPERATING MANUAL. THESE RULES CANCEL ALL PREVIOUS WORKING INSTRUCTIONS OF BACHELI 'A' CABIN.

(CH.SRINIVAS)
DSTE/Project/VSKP

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Sr.DOM/M/WAT

EAST COAST RAILWAY
WALTAIR DIVISION

SYSTEM OF SIGNALLING AND INTERLOCKING AND TELECOMMUNICATIONS

BACHELI 'A' CABIN:

1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATIONS:

BACHELI 'A' Cabin is a 'siding. 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 equipped with manually operated Multi Aspect Colour Light Signalling.

1.1 Description of Panel:

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

1.2 Point Buttons:

Push buttons Black for individual operation of points are provided for each point. Point group push buttons (black with red dot) for operation of points normal/reverse are also provided. Point button and point Group button normal/reverse shall conjunctively be pressed for operation of point to required position. To indicate the position of point, a small indicator lamp is provided on panel above the concerned points.

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

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

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

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

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

1.7 OPERATION OF POINTS :

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

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

2. DESCRIPTION OF POINT BUTTONS:

Sl. No.	Point Button No.	Colour	Description
1.	101 WN	Black	Single ended point connecting NMDC lines 2 & 3.
2.	102 WN	Black	Cross-over point between Line no. 4 and 5 of RYD.
3.	103 WN	Black	Slip siding point at BHNS end.
4.	104 WN	Black	Single ended point connecting Line no. 3 & 4 of RYD.
5.	105 WN	Black	Single ended point connecting NMDC lines 5 & 6.
6.	106 WN	Black	Single ended point connecting Line no. 2 & 3 of RYD.
7.	107 WN	Black	Single ended point connecting NMDC lines 7 & 8.
8	108 WN	Black	Cross over point between Line no. 1 & 2 of RYD.
9	109 WN	Black	Single ended point connecting RYD and NMDC loading lines 5, 6 & 7.
10	110 WN	Black	Single ended point connecting RYD and NMDC lines 8, 9 & 10.
11	111 WN	Black	Single ended point connecting NMDC lines 9 & 10.
12	112 WN	Black	Cross over point between RYD and NMDC Line no. 1.
13	113 WN	Black	Single ended point connecting NMDC lines 8 & 9.
14	115 WN	Black	Single end point between NMDC grid 1, 2 & 3.
15	117 WN	Black	Single end point between NMDC grid 1 & 2.
16	119 WN	Black	Single end point between NMDC line 3 & 4.
17	121 WN	Black	Single end point between NMDC line 2 & 3.
18	123 WN	Black	Single end point between NMDC line 5 & 6.
19	125 WN	Black	Single end point between NMDC line 6 & 7.
20	127 WN	Black	Single end point between NMDC line 8 & 9.
21	129 WN	Black	Single end point between NMDC line 9 & 10.
22.	Point group button (Normal)	Black with Red dot.	Common button for normal operation of points.
23.	Point Group Button (Reverse)	Black and Red dot.	Common button for Reverse operation of points.

CABIN WORKING INTRUCTIONS OF BACHELI 'A' CABIN

2.3 DESCRIPTION OF SIGNAL BUTTONS :

Sl.	Signal Button No.	Colour	Description
1	SLOT-1	Green	Slot extended to BCHL for receiving vehicle on NMDC Line no.1 for 3E & C-3E routes.
2	SLOT-3	Green	Slot extended to BCHL for receiving vehicle on NMDC Line no.1 for 3E & C-3E routes.

3. ROUTE BUTTONS AT NMDC YARD:

Sl no	Route button No.	Colour	Description
1	NMDCL-1 UN	White	Common route button for signals 3E, C-3E, SH-12A, SH-14, S-4, S-6, S-18, S-10, S-12 routes for reception of trains on NMDC Line no.1.
2	NMDCL-2 UN	White	Common route button for signals S-5I, SH-7I, SH-16A routes for reception of trains on NMDC Line no.2.
3.	NMDC L-3 UN	White	Common route button for signals S-5H, SH-7H, SH-16B routes for reception of trains on NMDC Line no.3.
4	NMDC L-4 UN	White	Common route button for signals S-5G, SH-7G, SH-16C routes for reception of trains on NMDC Line no.4.
5	NMDC L-5 UN	White	Common route button for signals S-5F, SH-7F, SH-18A routes for reception of trains on NMDC Line no.5.
6	NMDC L-6 UN	White	Common route button for signals S-5E, SH-7E, SH-18B routes for reception of trains on NMDC Line no.6.
7	NMDC L-7UN	White	Common route button for signals S-5D, SH-5D,SH-18C routes for reception of trains on NMDC Line no.7.
8	NMDC L-8 UN	White	Common route button for signals S-5C, SH-5C,SH-20A routes for reception of trains on NMDC Line no.8.
9	NMDC L-9 UN	White	Common route button for signals S-5B, SH-5B, SH-20B routes for reception of trains on NMDC Line no.9.
10	NMDC L-10 UN	White	Common route button for signals S-5A, SH-5A,SH-20A routes for reception of trains on NMDC Line no.10.
11	41 AT UN	White	Common route button for signals SH-(23, 25, 27).
12	43 AT UN	White	Common route button for signals SH-(29, 31, 33).
13	45 AT UN	White	Common route button for signals SH-(35, 37, 39).
14	60 AT UN	White	Common route button for signals S/SH-(40, 42, 44,46, 48, 50, 52, 54, 56).
15	SLOT-1 UN	White	To be pressed for extending slot to BCHL for reception of trains on NMDC Line no. 1 for 3E, C-3E routes.
16	SLOT-3 UN	White	To be pressed for extending slot to BCHL for reception of trains on NMDC Line no. 1 for 1A, C-1A routes.
17	18T UN	White	To be pressed for taking off intermediate starter no. 18 of NMDC line no.1 which will be released by S-60 of BCHL.

4. ROUTE BUTTONS AT RECEPTION YARD:

Sl no	Route button No.	Colour	Description
1	RYD L-1 UN	White	Common route button for signals SH (21,41, 43, 45) A routes for reception of train on RYD Line no.1.
2	RYD L-2 UN	White	Common route button for signals SH-47A, SH (41, 43, 45) B routes for reception of train on RYD Line no.2.
3	RYD L-3 UN	White	Common route button for signals SH-47B, SH (41, 43, 45) C routes for reception of train on RYD Line no.3.
4	RYD L-4 UN	White	Common route button for signals SH-47C, SH (41, 43, 45) D routes for reception of train on RYD Line no.4.
5	RYD L-5 UN	White	Common route button for signals SH-47D, SH (41, 43, 45) E routes for reception of train on RYD Line no.5.

5. CRANK HANDLE PUSH BUTTONS:

Sl. No	CRANK HANDLE	CONTROL POINTS
1	CH1	101,103,105,107,109
2	CH2	110,111,113
3	CH3	108,112
4	CH4	102,104,106
5	CH5	115,117
6	CH6	119,121
7	CH7	123,125
8	CH8	127,129

6 MISCELLANEOUS PUSH BUTTONS:

SL No.	Button No	Colour	Description
1	SM's EMERGENCY POINT OPERATION KEY	---	This key is to be inserted and operated in the event of Emergency point operation
2	SM's PANEL KEY	---	To lock the control panel to prevent unauthorized operation
3	GROUP TRANS PUSH BUTTON	WHITE WITH BLACK DOT	To be pressed to initiate slot or crank handle or LC gate operation along with concerned slot/Crank Handle/L.C.Gate button.
4	GROUP RELEASE PUSH BUTTON	WHITE WITH BLACK DOT	To be pressed to withdraw/Normalize the control of slot of crank handle or LC gate operation along with concerned slot/Crank Handle/L.C.Gate push button.
5	POINT GROUP NORMAL PUSH BUTTON	BLACK WITH RED DOT	To be pressed to initiate 'NORMAL' setting of point along with concerned point push button.
6	POINT GROUP REVERSE PUSH BUTTON	BLACK WITH RED DOT	To be pressed to initiate 'REVERSE' setting of point along with concerned point push button

SL No.	Button No	Colour	Description
7	EMERGENCY ROUTE RELEASE PUSH BUTTON	WHITE WITH RED DOT	To be pressed for emergency Route Release
8	SIGNAL CANCELLATION PUSH BUTTON	RED	To be pressed for 17cancelling a signal which is already taken 'OFF' or to release a route after passage of a train.
9	SIGNAL LAMPFAILURE ACKNOWLEDGEMENT	RED WITH WHITE DOT	To be pressed for acknowledging signal lamp failure
10	POINT FAILURE ACKNOWLEDGEMENT	BLACK WITH WHITE DOT	To be pressed for acknowledging point failure
11	EMERGENCY POINT OPERATION	BLACK WITH RED DOT	To be pressed to operate the point when concerned point zone track circuit failed.
12	BUTTON HELD ACKNOWLEDGEMENT PUSH BUTTON	WHITE WITH RED DOT	To be pressed for silencing button held buzzer in case of any push button remains pressed after the button is released.
13	SM'S COMMON AXLE COUNTER RESET KEY	----	SM's common reset key to be inserted and turned for resetting of axle counters along with concerned axle counter reset button.
14	119 AZVBN	RED	To be pressed on panel along with reset button at CH-Location box no. 2 for resetting of 119XT.
15	123 AZVBN	RED	To be pressed on panel along with reset button at CH- Location box no. 2 for resetting of 123XT.
16	127 AZVBN	RED	To be pressed on panel along with reset button at CH- Location box no. 2 for resetting of 127XT.
17	04 AZVBN	RED	To be pressed on panel for Line no.4 of main yard along with reset button at zone verification Location box for resetting of 04 AXT.
18	NMDC L-1 AZVBN	RED	To be pressed on panel for NMDC Line no.1 along with reset button at zone verification Location box for resetting of NMDC L-1 AXT.
19	NMDC L-2 AZVBN	RED	To be pressed on panel for NMDC Line no.2 along with reset button at zone verification Location box for resetting of NMDC L-2 AXT.
20	NMDC L-3 AZVBN	RED	To be pressed on panel for NMDC Line no.3 along with reset button at zone verification Location box for resetting of NMDC L-3 AXT.
21	NMDC L-4 AZVBN	RED	To be pressed on panel for NMDC Line no.4 along with reset button at zone verification Location box for resetting of NMDC L-4 AXT.
22	NMDC L-5 AZVBN	RED	To be pressed on panel for NMDC Line no.5 along with reset button at zone verification Location box for resetting of NMDC L-5 AXT.

SL No.	Button No	Colour	Description
23	NMDC L-6 AZVBN	RED	To be pressed on panel for NMDC Line no.6 along with reset button at zone verification Location box for resetting of NMDC L-6 AXT.
24	NMDC L-7 AZVBN	RED	To be pressed on panel for NMDC Line no.7 along with reset button at zone verification Location box for resetting of NMDC L-7 AXT.
25	NMDC L-8 AZVBN	RED	To be pressed on panel for NMDC Line no.8 along with reset button at zone verification Location box for resetting of NMDC L-8 AXT.
26	NMDC L-9 AZVBN	RED	To be pressed on panel for NMDC Line no.9 along with reset button at zone verification Location box for resetting of NMDC L-9 AXT.
27	NMDC L-10 AZVBN	RED	To be pressed on panel for NMDC Line no.10 along with reset button at zone verification Location box for resetting of NMDC L-10 AXT.

6. Power Failure Indication/Buzzer And Power Acknowledgement :

Power supply to the signalling installation is through integrated power supply system. The IPS is normally fed through AT supply. The 1st standby power supply is Local (CSEB) and 2nd standby power supply is through DG set. The available local / DG supply is fed to the IPS through auto change over switch provided in IPS. In the event of failure of local supply, the SM on duty shall start the Diesel generator. The power supply of D.G.set is fed to the auto change over switch provided in IPS. Through auto change over switch the D.G. set power supply will be extended to the IPS.

The IPS system is connected with battery for safe working during transition of power.

7. Remote monitoring:

ASM console for IPS is provided at SM's office, which will give the following instructions.

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

In the event of failure of Remote monitoring ASM console due to any reason when local power

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is failed the SM on duty shall start D.G. Set immediately. In case “call S&T staff” or “System shut down” is appears on the remote monitoring panel of IPS and / or malfunctioning of the Remote monitoring panel SM on duty shall inform the same to the concerned S&T staff immediately.

7.1 **SIGNAL (LED)/POINT FAILURE INDICATION (RED SIGNAL LAMP MUTTING BUTTON RED WITH WHITE DOT):**

Whenever LED signal becomes blank, as point failure, a flashing Red light indication appears along with an audible buzzer indicates Signal lamp as point failure. The Station Master on duty shall press the signal lamp/point failure Ack. Button thereby the buzzer stops but the Red indication lamp becomes steady which continues till either the LED signal is replaced/rectification of point failure.

7.2 **BUTTON HELD INDICATION WHITE/BUTTON BUZZER WHITE WITH RED DOT:**

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

8. **TRACK CIRCUITS / AXLE COUNTERS:**

Provision of track circuits and axle counters.

The following track circuits are provided at BCHL 'A' Cabin:

5T, 60AT, 115T, 117T, 45AT, 43AT, 41AT, 109T, 21T, 110T, 112AT, 112BT, 14AT, 108AT, 108BT, 106T and 102T.

The following analog axle counters are provided at BCHL 'A' cabin.

113XT, 107XT, 103XT, L1AXT, L2AXT, L3AXT, L4AXT, L5AXT, L6AXT, L7AXT, L8AXT, L9AXT, L10AXT, 127XT, 123XT and 119XT.

9. **CRANK HANDLE FOR EMERGENCY OPERATION OF POINTS:**

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

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

9.2. **STATION MASTER'S KEY:**

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

9.3. **EMERGENCY OPERATIONS:**

The following are the instructions for Emergency operations.

9.4. **CANCELLATION BUTTON OR COUNTER:**

For the purpose of the emergency operations there is an emergency Route cancellation and also there is a 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 by breaking the seal along with concerned signal button for which emergency route releases is required. A yellow indication will appear below the signal indicating that the timer has started operation and after lapse of 120 seconds. The desired route will be released provided all other conditions are favourable for the route release. The counter registers to next higher number every time emergency route cancellation is initiated. SM on duty shall ensure sealing of emergency route cancellation button by S&T maintenance staff after completion of the work.

9.5 The numbers on the counter register the number of operations performed for such emergency cancellation and the station master on duty should specify the cause for such usage giving the 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:

9.6. **CANCELLATION OF UNINTENDED LOCKING OF POINTS:**

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

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

OR

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

OR

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

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

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

9.8. **EMERGENCY OPERATIONS:**

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

If the locking of the route does not get released for any reason on the other after passage of the train, it is necessary to take recourse to the following emergency operations.

The Panel 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.

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When it becomes necessary to alter the route after the signal has been taken 'OFF' vide SR 3.36.02(a), the concerned signal must be put back to Danger by simultaneously pressing the signal cancellation button and concerned signal button. After this, first the emergency route release button (White with Red Dot) positioned on the top of the panel to be pressed after breaking seal and subsequently the concerned signal button is to be pressed. A white light will be lit indicating that the timer is working. After a lapse of 120 seconds the white light along with the white strip of light will disappear suggesting that the route has been released. In case the route illumination (white strip lights) does not disappear, it suggests that the route is not released/cancelled. In such case the concerned S&T staff should be advised immediately to release by rectifying the fault. It is to be ensured that after every emergency route release operation S&T staff shall seal the emergency route release button.

Each operation of emergency cancellation of route should be recorded in the emergency route release counter register by registering the next higher number. All such operations and the new number should be recorded in the station diary counter register and in the train signal register.

10. EMERGENCY OPERATIONS OF POINT:

10.1 IN CASE OF POINT ZONE TRACK CIRCUIT FAILURE:

The Station Master on duty can operate points from panel in case of point zone track circuits fails. The Station Master on duty after physical verification inserts the SM's emergency point key and turn. Keeping Emergency point key in that position the Station Master on duty must press the individual point button along with emergency point operation button (Black with Red dot) by breaking the seal. He shall then release the emergency point operation button only and press the point group Normal or Reverse button as per requirement keeping the individual point button is pressed condition. Points will be set to Normal or Reverse position as per operation. During the initiation on RED indication will appear above the emergency operation button. This operation will be registered in and emergency point operation counter placed above the emergency point operation button and counter registers to next higher number each time emergency point operation is initiated. SM on duty shall ensure sealing of emergency point operation button by S&T maintenance staff after completion of emergency point operation.

11. INTERLOCKING OF SIGNALS:

- 11.1 All running line points are fitted with point machine and are electrically detected by the relevant Home signals and starters.
- 11.2 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.
- 11.3 Inter slotting arrangement has been provided between Bacheli station SM and Bacheli 'A' cabin SM. For every slot transmission between Bacheli and 'A' cabin for reception/dispatch of trains, it should be supported with private number exchange between the concerned SMs.
- 11.4 For taking off inner home signal S/C-3E route on NMDC line no.1, slot shall be granted to BCHL by operating 'A' cabin slot no.1 and for taking off UP home signal route IA/C-1A on NMDC line no.1, slot shall be granted to BCHL by operating 'A' cabin slot no.3.
- 11.5 For taking off 'A' cabin Starter signals S-4, S-6, S-8, S-10 and S-12 of RYD on NMDC Line no.1 & for taking off dependant shunt signals SH (12, 14) on NMDC L-1 slot no. 20 shall be received from BCHL.
- 11.6 For taking off intermediate starter signal no. 60 of 'A' cabin, slot no.22 shall be received from BCHL.
- 11.7 Intermediate starter signal no. 18 of NMDC line no.1 will be released by DN advanced starter signal no. 60 of BCHL.

12. LOCKING OF RELAY ROOM:

CABIN WORKING INTRUCTIONS OF BACHELI 'A' CABIN

- 12.1 Relay room at this station is provided with double locks (Two independent locks) as necessary vide OM 1.14, key of one lock shall be kept with the Signal Maintainer of the section and the key of the other lock with Station Master on duty. The relay room cannot be opened unless both keys are used.
- 12.2 The Station Master shall ensure that the Relay Room key is given to maintenance staff under clear signature as and when required for their normal maintenance and special works and that the key should be returned by the staff immediately after completion of their work and the documentation should be made in the Relay Room Key register maintained at the Station according to SR 3.51.05 and OM 1.14.

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

- 13.1 The regular maintenance of S&T installations and adherence to the schedules of maintenance is also the mandatory schedules of testing of points, track circuits, point machines, level crossing gates, the associated interlocking apparatus i.e., cables and finally the interlocking functional tests is a must for the safe and satisfactory working of those installations at BCHL 'A' Cabin.
- 13.2 The tests, checks and replacements etc. including overhauling shall confirm to the
- 13.3 schedule of maintenance as indicated in the signal engineering manual as also in the current and extent instruction / circulars on the subject.

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

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

14.1 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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

14.2 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

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

15. PROCEDURE FOR CARRYING OUT PLANNED MAINTANANCE WORK:

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

16. EMERGENCIES:

Notwithstanding anything contained in above said Para Nos. 14 and 14.1 and 14.2, when a gear is found to be defective and unsafe for passage of trains, the Signal and Telecom. Staff shall at once suspend the working of such gear and the

CABIN WORKING INTRUCTIONS OF BACHELI 'A' CABIN

associated installation and issue a "Suspension Memo" explaining the seriousness of the defect or damage to the interlocking installation to the Station Master and obtain SM's acknowledgement. After this, the usual practice of issuing disconnection memo and reconnection memo can follow and the Station Master must promptly act on such messages and take adequate precautions treating the S&T installations as defective and pass trains over the affected interlocking gears according to extent instructions as contain in GR 3.77 and SR thereto.

17. **LIGHTING OF SIGNAL LAMPS AND THEIR MAINTENANCE:**

The Station Master on duty at every shift must also ensure from the Panel Board that all the signals lights are burning properly and brightly. This fact must also be

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recorded in the diary under a separate entry and confirm to the section controller on duty as per instruction contained in Divisional Safety Circular No. 82/82, Dated 2.5.82 and GR 3.49(3) and SR thereto.

18. **CORRECTING TIME IN STATION CLOCK:**

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

19. **NORMAL POWER SUPPLY AND STAND BY POWER SUPPLY:**

Normal: AT supply- 230v, 50Hz.
Standby: 1st Local supply (CSEB)
2nd DG set

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

Normal power supply to the Signalling and interlocking installations at this station is drawn from AT. The 1st standby power supply is taken from Chattishgarh state Electrical Board (CSEB) at 230v, 50Hz and 2nd standby is through DG set. The Station Master must however, maintain the record of the power failure of the local supply and he must promptly report the failure to the Section controller and the concerned Electrical and S&T maintenance staff.

20. **WORKING OF POINTS – POSITION OF POINTS:**

The normal position of all points shown in the Station Working Rule Diagram No. SI/WRD 23165 and also in the mimic indication panel provided in the Station Masters office.

- 20.1 All crossover points and independent points on the running lines are worked by Electric Point Machines. The point machines have in-built locking and detection arrangements. These points are remotely controlled from the panel situated in the Station Master's office.
- 20.2 The operation and indication of the points and their route locking over them is already explained in earlier paras of Appendix-B.

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

- 21.1 Whenever a Signal or a Point become defective, any movements over the Points on the running lines should be made after clamping and padlocking both the facing and trailing Points by Station Master on duty personally for all trains at Station.
- 21.2 In case of failure of Signal or a Point and in case the Point cannot be operated from the Panel, the emergency Crank Handle which is interlocked with the system has to be extracted and the following procedure has to be observed.

CABIN WORKING INTRUCTIONS OF BACHELI 'A' CABIN

- 21.3 The crank handle key can be extracted from concerned point crank handle RKT provided at location by pressing common trains button along with conceded crank handle button. After setting the point by crank handle the key will be inserted again into the concerned crank handle RKT and will be turned. Key indication will appear on panel and the SM has to press the common receive buttons along with concerned crank handle button for further normal operations.
- 21.4 The case of failure of Motor Operated Points should be promptly reported to the concerned SSE/ESM for immediate rectification.
- 21.4.1 Whenever an emergency Crank handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a
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- disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty; will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the concerned Points will be treated as defective till the Emergency
- 21.4.2 Crank Handle is returned back to the Station Master on duty.
- 21.4.2 Emergency release of crank handle after the lapse of 120 sec., in case of emergency release of crank handle during any of the route remains locked.
- 21.5 Both parting with the emergency crank handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to on position. The Points of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.
- 21.5.1 The Emergency Crank Handle Register is to be maintained in the following Performa by the Station Master on duty wherein the particulars of usage of the Emergency Crank Handle must be recorded.

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

22. TELECOMMUNICATIONS:

(CH.SRINIVAS)
DSTE/Project/VSKP

(K.V.S.R.K.KISHORE)
Sr.DOM/M/WAT

CABIN WORKING INTRUCTIONS OF BACHELI 'A' CABIN

- 1) BSNL Telephone.
- 2) 25 watts VHF set.
- 3) Magneto phone to CH location boxes..
- 4) Telephone connection is provided between SM/BCHL.
- 5) Railway auto telephone is provided.
- 6) NMDC auto telephone is provided.

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