

NO.21

STATION WORKING RULES OF BAUDPUR STATION

BG Station.

Date of Issue: 19.08.13

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NOTE:

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

1. **STATION WORKING RULE DIAGRAM:**

The Station Working Rule diagram No. SI/WRD/21051 based on CSTE/East Coast Railway's Signal Interlocking Plan No. SI/21051 ALT-D shows the complete layout of the yard, siding, normal position of points, the Signalling and Interlocking arrangements, gradients within the station limits. This must be referred to for giving details of the point numbers and signals when reporting accidents.

2. **DESCRIPTION OF STATION:**

2.1. **LOCATION:**

BAUDPUR (Code: BUDR) is a Class 'B' four lined station on the Howrah – Visakhapatnam Double line electrified (BG) section of East Coast Railway. It is situated at Km. 299.747 from Howrah. The station is provided with Standard-III Interlocking and equipped with Central Panel/VDU and Multiple Aspect Colour Light signals. The station is worked under Absolute Block System of GR & SRs.

[Refer GR. 8.01 (1) (a), (b), 2 (b), 8.03 (1), (a), (b), (c) (ii), 8.05 (2) (3) & 8.06, 8.14, 8.15, 8.16]

2.2. **BLOCK STATIONS, IBH, IBS ON EITHER SIDE AND THEIR DISTANCE AND OUTLAYING SIDINGS:**

i. **BLOCK STATIONS ON EITHER SIDE AND THEIR DISTANCES:**

BAUDPUR (Code: BUDR) station is situated between BHADRAK (Code: BHC) in the North side at a distance of 6.5 Km. and KENDUAPADA (Code: KED) in the South side at a distance of 9.0 Km.

ii. **IBH/IBS/OUT LYING SIDING/DK STATION:**

NIL

iii. **PASSENGER HALT:**

Kapali Road (Code: KPLD) is situated between KED and BUDR station at Km. 304.5 from HWH.

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

Between Stations	The Point from which the 'Block Section' Commences	The Point at which the 'Block Section' end
BHC-BUDR UP Direction	UP Advanced Starter Signal of BHC station.	The outermost facing point No. 21A of BUDR.
BUDR-BHC DN Direction	DN Advanced Starter Signal of BUDR station.	The outermost facing point No. 104A of BHC.
BUDR-KED UP Direction	UP Advanced Starter Signal of BUDR station.	UP BSLB of KED.
KED-BUDR DN Direction	DN Advanced Starter Signal of KED station.	DN BSLB of BUDR.

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b. **STATION SECTION:**

Station Section	The Point from which the 'Station Section' Commences	The Point at which the 'Station Section' end
UP Line	Outer most facing point No. 21A at HWH end of BUDR.	UP Advanced Starter No. 13 of BUDR.
DN Line	DN Block Section Limit Board on DN line of BUDR.	DN Advanced Starter No. 14 of BUDR.

c. **STATION LIMIT:**i. **UP LINE:**

UP Distant Signal to UP Advanced Starter Signal No. 13.

ii. **DN LINE:**

DN Distant Signal of BUDR to DN Advanced Starter Signal No. 14.

2.4 **GRADIENTS:**i) **TOWARDS HWH END:**

From	To	Gradient
CSB	CH: 252.68 M	Level
CH: 252.68 M	CH: 566.93 M	1 in 585 'R'
CH: 566.93 M	Towards Block section	1 in 300 'R'

2.5. **LAYOUT:**

The station is provided with four running lines in the Main yard (namely Common Loop Line, DN Main Line, UP Main Line, UP Loop Line), and two non-running lines i.e. siding & Hot Axle siding. There is one private siding of M/s FACOR power plant siding takes off at KED end of the yard.

a.i. **SIDING:**

The siding at VSKP end of the yard with one side entry is taking off from Common Loop (Line No. 1). The entrance point and corresponding derailing switch is coupled and operated by an arc lever at site. The entrance point is fitted with hand plunger lock. This hand plunger lock is unlocked by siding key A2 and released by pressing the button No. 30 and common group 'trans' button provided on panel/VDU at SM's office. Reception signals i.e. 2A, C2A in DN direction and 1C, C1C in UP direction and Shunt Signal Nos. SH3B, SH4A, SH-6, SH-9, SH-16 and Signal No. 8 & 9 are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the siding key is taken 'OUT' from the RKT provided at siding location at site.

ii. **HOT AXLE SIDING:**

The Hot Axle siding at VSKP end of the yard is taken off from line No. 4 (UP loop). The entrance point & corresponding derailing switch are coupled & operated by an arc lever at site. The entrance point is fitted with hand plunger locks. The hand plunger lock is unlocked by Hot Axle siding key 'B'. & released by pressing the button No. 32 & common group trans button provided on panel/VDU at SM's office. Reception Signals i.e. 1A, C1A in UP direction & Shunt Signal No. 4D & Signal No. 7 are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the Hot Axle siding key is taken 'OUT' from the RKT provided at Hot Axle siding location at site.

iii. **SHUNTING NECK:**

The shunting neck is the extended portion of Line No. 1 towards VSKP end of the yard. It is terminated with a dead end and isolated by a derailing switch at CH: 576.0m. SH-9 controls the movement of trains to the Shunting Neck. Similarly, SH-6 controls the movement of trains from the Shunting Neck.

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b. **PLAT FORMS:**

- i) Line No. 1 (Common Loop) : L.L.P.F
- ii) Line No. 2 (DN Main) : L.L.P.F.
- iii) Line No. 3 (UP Main) : R.L.P.F.
- iv) Line No. 4 (UP Loop) : R.L.P.F.

2.5.1. **RUNNING LINES, DIRECTION OF MOVEMENT & HOLDING CAPACITY IN CSL:
DIRECTION OF TRAFFIC:**

The trains coming from BHC end are UP trains and the trains coming from KED end are DN trains.

2.5.2. **HOLDING CAPACITIES:**

Line No. 1	Common loop	702 M	(Electrified).	From Starter to Starter
Line No. 2	UP Main	749 M	(Electrified).	From Starter to SB
Line No. 3	DN Main	772 M	(Electrified).	From Starter to SB
Line No. 4	DN Loop	739 M	(Electrified).	From Starter to SB

2.5.3. **NON-RUNNING LINES:**

1.	Siding	140 M (CSL)	(Electrified).	From DE to DS
2.	Hot Axle siding	45.71M (CAL)	(Non-Electrified)	From DS to DE
3.	Shunting Neck	51.00M (CSL)	(Non-Electrified)	From SB to SH

(a) **ANY SPECIAL FEATURES IN THE LAYOUT:**

The turnouts of Hot Axle Siding and the siding are 1 in 8 ½.

(b) **SPECIAL RESTRICTIONS:**

- i) Shunting in the face of an approaching train is prohibited.
- ii) Hand shunting/fly shunting is prohibited at both ends of the yard.
- iii) The overrun line must not be used for stabling of vehicle or harboring an engine with or without vehicle.

[c] **SPECIAL INSTRUCTIONS:**

- i. Movement of Non-insulated push trolley is prohibited between BUDR-BHC and BUDR-KED sections vide SR 15.25.04 (c).
- ii. Speed over turn outs on directional loop line No. 1 & 4 (common loop) is 30 KMPH as per CRS sanction No. 695 dtd. 24.09.2009.
- iii. Before dispatching a train towards FACOR power plant cabin by taking off shunt signal No. 9B, SM/BUDR should ensure that no train is coming from FACOR power plant cabin by exchanging private number.

2.6 **LEVEL CROSSINGS:**

There is a "Special" Class interlocked L.C. Gate No. 120 situated at Km. 296/23-25 (UP) & 296/26-24 (DN) between BHC-BUDR Stations. Telephone communication is provided between the gate lodge & SM/BHC.

3. **SYSTEM AND MEANS OF WORKING:**

Trains are worked under Absolute Block System by means of SGE type Double Line Lock and Block Instrument for BHC-BUDR & KED-BUDR sections. The Block Instruments shall be operated by Station Master on duty and keys of the Block Instruments shall remain under personal custody of SM on duty. The authority for the Loco Pilot to proceed is taking 'OFF' of the last stop signal. The Block Instruments are of non co-operative. [Refer Chapter-XIV of GR & SRs, Chapter-VI of Block Working Manual and GR 14.08 (a)]

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

4.1 This Station is provided with Standard-III interlocking with Multiple Aspect Colour Light Signalling having maximum equipment of signals. The aspects and indications of the MACLS is governed by GR 3.08 (4) (b).

The Station is provided with central panel (EI) interlocking and having no end cabins. All signals and points are electrically operated from the central panel/VDU provided at SM's Office. Operation of EI from Visual Display Unit (VDU) is available as stand by option. Calling-on signals are provided below Home signals (i.e. in both UP & DN directions) as per GR 3.13 (1) (b), (2) (3) (4) & (6) (b). Central panel with miniature push buttons or VDU are provided in the Station Master's office to electrically control all signals, points, siding key, etc., the control panel is provided with SM's key which shall always remain in the personal custody of the Station Master on duty in terms of SR 3.36.03 (a).

A two-position switch is provided on the control panel through which SM on duty can select the mode of operation (i.e. from panel or VDU)

(The details of stand by operation from VDU is given under Appendix-'B1')

[a] **CRANK HANDLE:**

When any point fails to operate normally by the route setting operation through panel/VDU it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per Operating Manual Para 20.06.

CRANK HANDLE

CONTROL POINTS

CH-1	-----	22 A/B
CH-2	-----	24 A/B, 25 A/B
CH-3	-----	23 A/B, 26 A/B
CH-4	-----	21 A/B
CH-5	-----	28, 34 A/B

These crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle can be released by 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 that Crank Handle. This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points.

SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. If the Crank Handle is in locked condition and it is necessary to operate the concerned point by Crank Handle due to whatever reason then the concerned signal should be put back to "ON" position then Crank Handle Key can be taken out after two minutes by pressing common 'TRANS' push button and concerned Crank Handle control push button simultaneously. 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 are as per Appendix-'B').

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

[b] TAKING OFF CALLING-ON SIGNAL:

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

To take "OFF" Calling-on signal the train must come to a stop at the foot of the Home signal, occupying the track circuit in rear of the signal. When a train occupies the track circuit a RED light strip will appear on the panel. The particular route on which train is intended to be received shall be set by operating the point push button and group button individually or by signal and route button pressing or by crank handling in the event of failure of operation of points through panel/VDU. After the route is set, the Calling-on signal switch 'C1A/B/C'-'C2A/B' (Red with White dot) (as the case may be) shall be pressed simultaneously along with the concerned route button for 2-3 seconds and released. After a lapse of 120 seconds, the Calling-on signal clears i.e. a Yellow light glows at the concerned calling-on signal on the panel. Every such operation has to be recorded by the on duty SM along with the reasons to do so. The calling-on signal route can be released after the signal cancellation button is pressed after complete arrival of the train.

NOTE:

SM on duty is to ensure that No through signals are given while receiving a train on Calling-on.

[c] SHUNT SIGNALS:

Back shunt signals 3A/B, 4A/B/C/D & 6 are provided for shunting purposes.

[d] EMERGENCY CROSS OVER:

One Emergency cross over is provided at either end of the yard.

[e] L.C. GATE OPERATION:

NIL

[f] EMERGENCY POINT OPERATION (BLACK WITH RED DOT):

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) is provided on the top of the panel. If such operation is necessary, the SM on duty, after ensuring that SM's emergency point key is 'IN' and No vehicle is standing on the concerned point, shall press the emergency point operation button along with relevant point button simultaneously. Then retaining 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'. All such operations will be registered in the emergency point operation counter Register. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

[g] EMERGENCY ROUTE RELEASE COUNTER:

This counter is provided to register the number of operations made for emergency cancellation of route. The Station Master must record the last number registered on the counter while taking over/handing over duty.

[h] **EMERGENCY ROUTE RELEASE INDICATION (WHITE) EMERGENCY ROUTE RELEASE BUTTON (WHITE WITH RED DOT):**

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 the concerned signal button. After this first the emergency route release button (white with red dot) positioned in the top of panel to be pressed and subsequently the concerned signal button is to be pressed releasing the emergency route release button. A White light will flash indicating that the timer is working. After 120 seconds, the White light along with the White strip of light will disappear suggesting 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 the route and seal the emergency route release button.

Each operation of emergency cancellation of route is 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 and in the train signal register.

[i] **TRACK CIRCUITS:**

Entire station section is track circuited. In addition there are short length track circuits in advance of Advanced Starter Signals and Home signal in both the directions are also provided. For Calling-on signals (91M Rail length) track circuits are also provided in rear of the Home signals in both directions. From last trailing point/fouling mark in either side of Yard to Advanced Starter Signals are also track circuited (i.e. 13AT and 14AT in UP and DN directions respectively). Indications for the above track circuits are available on panel/VDU at SM's office. White light on panel indicates track clear and Red light indicates track occupied condition.

AXLE COUNTER:

- (i) Entire Block Section between BUDR-BHC and BUDR-KED are provided with Digital axle counter.

FOR SEC: BUDR-BHC. A pair of Digital axle counter is provided between BUDR-BHC on UP line one just beyond UP Advanced Starter BHC and another pair is on track 1T2 i.e. beyond the UP Home Signal at BUDR. Similarly, a pair of Digital axle counter is provided between BUDR-BHC on DN line one just beyond DN Advanced Starter of BUDR and another pair is on track 2T2 i.e. beyond DN Home Signal of BHC.

FOR SEC: BUDR-KED. A pair of Digital axle counter is provided between BUDR-KED on UP line one just beyond UP Advanced Starter BUDR and another pair is on track 1T2 i.e. beyond the UP Home Signal of BUDR. Similarly, a pair of Digital axle counter is provided between BUDR-KED on DN line one just beyond DN Advanced Starter of KED and another pair is on track 2T2 i.e. beyond DN Home Signal of BUDR.

The position of the Block section whether cleared or occupied are reflected in the panel diagram provided in the Station Master's office which shows 'GREEN' when the Block Section is clear and 'RED' when occupied. Whenever a train enters 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 shall not come to OFF and the concerned instrument shall remain locked in last operated position.

A resetting arrangement for resumption of the system in case of failure of axle counter has been provided in the SM office of the adjacent Block stations after being assured by both the SM that the last vehicle has arrived complete at the receiving station by exchanging Private Number then resetting to be complied with. (Details of resetting procedure given in Appendix-'B' of this SWR)

In case of failure of analog Axle Counter the re-setting of axle counter must be done as per the procedure given in Appendix-"B" of this SWR. In the event of failure of Axle Counter/ Track circuit the clearance of loop lines and concerned point zone and main lines will be ensured by physical check by the SM on duty and train shall be admitted as per GR 3.69 and SR thereto.

NOTE:

Before taking off reception and dispatch signals for UP and DN 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 circuit indication. The indication of track circuit will exhibit Red Light when track is occupied and White light when track is clear. There will be No track indication when any route is not set.

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

The relay room should be kept locked with two separate locks. The arrangement should be such that one key is kept with on duty SM and other key with Maintainer. Whenever required, the SM shall hand over the key to Maintainer with proper acknowledgement in basement/relay room register. The maintainer on receipt of key from SM may use the same and key in his custody to open the basement/relay room by inserting key one after another separately into earmarked locks. After completion of the work, the basement/relay room is to be locked using both the keys separately and designated key to be handed over to the SM. The details of the transactions are to be properly recorded in Basement/Relay Room Register maintained at the station and duly signed by the SM and Maintainer respectively.

4.3 POWER SUPPLY:

1. A changeover switch is provided in the Station Master's Office with the three power supplies viz. UP AT, DN AT and Local for changing the switch to the required supply position. A luminous indicator above the circuit breaker for each supply indicates the availability of the supply.
2. Normally the switch will be kept towards UP AT or DN AT position. Whenever power block is to be given on the line, the on duty SM must ascertain that power is available on the other AT.
E.g.: If power block is to be given on the UP line, DN AT must be available and vice-versa.
3. 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. (Three 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, the Local supply shall be utilized by operating the switch.

If the circuit breaker is tripping even after resetting, No attempt shall be made to hold it by any other mean and a message shall be given to the AEE and CTFO/PSI for prompt rectification.

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

5. IPS (Integrated Power Supply) arrangement has been provided at the station to take care of the signaling system as well as to avoid blanking of signals in case of power failure.

In case of AT/GRIDCO Power failure the IPS takes care of the signaling system approximate for 6 to 8hrs.

One Indication panel for monitoring of IPS voltage has been provided in SM Room. The Indication panel shall display the voltage of IPS as well as health of the IPS provided to operate signaling gears. Audio Visual alarm has been provided in the panel to guide on duty SM to take action in case of low voltage or No voltage or any defect in IPS is shown in the SM panel. Details indications and alarm have been described below:

SM INDICATION PANEL FOR IPS:

- Call S&T - Red indication
- Signal system shut down - Red indication
- Emergency start DG - Red indication
- Start DG - Red indication
- Stop DG - Green indication

To acknowledge the indication on panel two push buttons are provided. Besides this the panel also has digital display of IPS battery voltage.

Whenever alarm appears on the SM panel due to any fault in the IPS system or due to low battery voltage on duty shall acknowledge the alarm by pressing the push button provided on the panel. Pressing on the push button shall mute the buzzer but relevant indication will continue to show till the fault is rectified by S&T staff. After acknowledgement of the alarm on duty SM shall immediately inform S&T staff at station regarding the alarm.

5 TELECOMMUNICATIONS:

- a) The Station is connected to KIS-BHC and JKPR-NYG Control Circuit.
- b) Telephone attached to SGE type Lock and Block Instruments for sections BUDR-BHC and KED-BUDR.
- c) Railway Auto telephone is provided at the station.
- d) Telephone communication is provided between Station Master on duty & H/A siding.
- e) Telephone communication is provided between Station Master on duty & siding.
- f) Telephone communication is provided between Station Master on duty to UP CH locations and to DN CH Locations.
- g) The station is connected to BHC-BRAG traction power control circuit.
- h) BSNL Phone is provided at this station.
- i) VHF set is provided at the station.
- j) Magneto Telephone has been provided between Station Master on duty and the FACOR power plant/SM.

NOTE

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

6 SYSTEM OF TRAIN WORKING:

The movement of trains is controlled by section controller on duty whose orders shall be complied with provided they do not contravene any 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 DUTIES OF TRAIN WORKING STAFF IN EACH SHIFT:

The following is the complement of operating staff provided at the station in each shift for train passing duty.

		<u>In each shift</u>
SS	1 (One)	in each day shift
SM/ASM	1 (One)	in each night shift
Traffic Points Man	1 (One)	in each shift

The above staff shall work as per roster issued from time to time by Divisional Railway Manager (P) and these rosters shall be conspicuously displayed in the Station Supdt's office (Details duties are given in Appendix-'D').

i. RESPONSIBILITY FOR ASCERTAINING CLEARANCE OF LINES AND ZONES OF RESPONSIBILITY:

The SM on duty is responsible to ascertain the clearance of the Nominated line between BSLB/first facing point and Advanced Starter Signal in each direction.

ii. ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:

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

No Railway servant shall be entrusted with any duty involving the safety of the public unless the SS is satisfied that the concerned staff is competent for the post. No Railway servant unless duly examined and certified shall be allowed to work the points and signals. The SS responsible to see that all the staff are well conversant with the Station Working Rules of the Station and their signature obtained in the Assurance Register after he is satisfied that they have thoroughly understood the Working Rules of the Station. In case of Class-IV staff, their signature/thumb impression must be obtained after explaining full about their duties and responsibility. The SS is personally responsible for maintaining the Assurance Register and for obtaining declaration from the staff working under him. The Assurance Register must be maintained in two parts one for Group-'C' staff and other for Group-'D' staff & duplicate copy of the Assurance Register must be maintained and kept in the personal custody by the Station Supdt.

The declarations are to be renewed in the following cases:

- (i) Whenever there is any change in the Station Working Rules,
- (ii) For any staff who have not worked at the station or were away from the station for a period of 15 days and over
- iii. **USE OF PRIVATE NUMBER BOOKS AND IDENTIFICATION NUMBER SHEETS:**
Sufficient private number books and identification number sheets in sealed covers shall always be kept in stock by SS under lock key by maintaining register for this purpose.

6.2. CONDITIONS FOR GRANTING LINE CLEAR:

Before granting a line clear to a train, the SM on duty shall ensure that:

- (i) The whole of the last preceding train has arrived complete.
- (ii) All necessary signals have been put back to 'ON' behind the said train.
- (iii) The line is clear upto BSLB on DN Line for DN Trains and up to the outermost facing point 21A on UP Line for UP trains.

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

1.1 SETTING OF POINTS AGAINST BLOCK LINE:

When a running line is blocked by stabled load wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train, the points in rear shall be 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)].

If all the lines at a station happen to be blocked, when line clear has been granted to a train, the point should be set for the line occupied by a stabled load or a Goods train. [Refer SR 3.51.06 (b)].

The above precautions shall be taken in addition to the observance of other precautions. [Refer SR 5.04.01 & SR 5.23.01].

1.2. RECEPTION OF A TRAIN ON BLOCKED LINE:

Whenever trains are to be admitted on a blocked line, Calling-on signal may be taken off. If Calling-on signals failed then the SM on duty shall authorize on duty TPM with form T/509, indicating reasons for such admission the line number and nature of obstruction on that line. Before handing over the authority the SM on duty shall ensure the correct setting, clamping, and padlocking of both the facing and trailing end of the concerned route vide SR 3.69.03. A stop hand signal shall be exhibited by SM on duty at a distance of not less than 45 m from the point of obstruction to indicate the Loco Pilot as to where the train shall be brought to stand.

1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

Before receiving a train on Non-signaled line, the SM shall ensure that-

- a) The train is brought to a stand at the first stop signal.
- b) The line on which it is intended to receive the train is clear up to the trailing points or up to the place at which the train is required to come to a stand.
- c) All points over which the train has to pass are correctly set, the facing and trailing points are clamped and padlocked and
- d) The Loco Pilot is authorized to pass the approach stop signals at 'ON' through a written authority i.e. T/369 (3b). [Refer GR 5.10].

1.4. DESPATCH OF TRAIN FROM NON-SIGNALLED LINE:

When ever a train is to be dispatched from a non-signaled line, a Starting Order on form T/511 shall be given to the Loco Pilot to start from the non-signaled line. [Refer SR 5.11.1]

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

NIL

1.5. Entire station section is track circuited. In case of failure of track circuits, the clearance of the Nominated line has to be ensured physically before piloting 'IN' a train.

6.2 CONDITIONS FOR TAKING "OFF" APPROACH SIGNALS:

The SM on duty shall nominate a clear line not only up to the starter but also for an adequate distance beyond it for reception of trains.

[Refer GR 3.36, 3.38, 3.40, 3.47, 4.17 and SR 3.36.01, 3.36.02, 3.36.04, 3.40.01, 3.40.02, 4.17.02, and Block Working Manual]

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

If a signal once taken 'OFF' for reception/dispatch of a train, has to be, in an emergency put back to 'ON' in case of reception signal, the route over which the train would pass shall not be altered until after the train has come to stand unless the route has to be altered to avert an accident. In case of departure signal, before changing the points or allowing any other movements the "Authority to Proceed" if any, handed over to the Loco Pilot must be withdrawn and the Loco Pilot of the train concerned shall be advised. [Refer SR 3.36.02 (a) & (b)]

6.4 SIMULTANEOUS RECEPTION/DESPATCH AND PRECEDENCE OF TRAINS:

The following simultaneous reception and dispatch facilities are provided at this station.

1.	Reception of a DN train on line No. 1 (Common loop)	Reception/dispatch of an UP train on/from line No. 3 or 4 OR dispatch of a DN train from line No. 2.
2.	Reception of a DN train on line No. 2 (DN Main)	Reception/dispatch of an UP train on/from line No. 3 or 4
3.	Reception of an UP train on line No. 3 (UP Main)	Reception/dispatch of a DN train on/from line No. 1 or 2
4.	Reception of an UP train on line No. 4 (UP Loop)	Reception/dispatch of a DN train on/from line No. 1 or 2 OR dispatch of an UP train from line No. 1 or 3.
5.	Reception of an UP train on line No.1 (Common Loop)	Dispatch of an UP train from line No. 3 or 4

ADEQUATE DISTANCE (Signal Over Lap):

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

CLEARANCE OF ADEQUATE DISTANCE

FOR DN TRAINS		
Line Number	From	To
1 Common Loop	Common Loop Starter Signal No. 8	Far end of the Over Run Line OR DN Advanced Starter Signal No. 14
2 DN Main	DN main line starter signal No. 12	UP Advanced Starter Signal No. 14

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FOR UP TRAINS		
1 Common Loop	Common Loop Starter Signal No. 9	Far end of the Over Run Line OR DN Advanced Starter Signal No. 13
3 UP Main	UP Main Line Starter Signal No. 11	UP Advanced Starter Signal No. 13.
4 UP Loop	UP Loop Starter Signal No. 7	Far end of the Sand Hump OR UP Advanced Starter Signal No. 13.

6.5 COMPLETE ARRIVAL OF TRAINS:

The entire block section between BUDR-BHC and BUDR-KED on both UP and DN Lines are monitored by axle counter system and the position of the block section whether 'Occupied' or 'Clear' is indicated in panel board at SM office. As soon as train enters in to that block section the RED indication appears on control panel. After whole train clears the block section GREEN indication appears on the control panel. This confirms the complete arrival of train and the SM on duty shall give 'Train Out of Block Section' report on seeing the section clear indication GREEN on the control panel.

If a train passes through the station without confirming the last vehicle indicator, the SM on duty shall advise the station in advance to stop the train for last vehicle verification & he need not withhold closing of block section in rear for the concerned section. Then he shall obtain confirmation under exchange of private number about the complete arrival of the train with its last vehicle from the station in advance and subsequent trains may be dispatched.

In case of failure of Axle counter the SM on duty shall obtain Complete Arrival Certificate from the guard of the train in the Complete Arrival Register (T/1410) maintained at the station for stopping train. For through passing train the SM on duty shall satisfy himself the complete arrival of the train by verification of the Last Vehicle Indicator vide SR 4.16.04 that the train arrived complete.

In case a train passes incomplete, action shall be taken as per SR 4.17.02, the "Train out of Block Section" report shall be withheld to the station in rear until Complete Arrival Certificate is received from the station in advance supported by a private number. Train passing on adjacent line shall be stopped and Guard and Loco Pilot shall be issued with caution Order to proceed cautiously and stop short of any obstruction as per SR 4.17.03. On occasions when motor trolley follows a train the points shall not be operated until the following motor trolley is admitted on the same line. In the event of motor trolley is delayed in the section the SM on duty shall take action in terms of SR 15.25.03 (b) (vi).

6.6 DESPATCH OF TRAINS:

To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the panel board. He shall suspend all Non-isolated shunting and then he shall take "OFF" the concerned route starter and advanced starter signal. The 'OFF' aspect of the route starter and Advanced Starter is the authority to proceed into the block section. [Refer GR 3.38, 3.42, SR 3.36.04 (b), 3.42.04 and BWM 2.07.5 (a)]

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

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To dispatch a train towards FACOR power plant cabin by taking off shunt signal No. 9B, SM/BUDR should ensure that no train is coming from FACOR power plant cabin by exchanging private number.

6.7 TRAINS RUNNING THROUGH:

The procedure detailed in Para 6.4, 6.5 shall be observed. The Station Master is responsible to observe/watch the condition of the vehicles on a passing train and shall wave green hand signal horizontally until anything wrong is noticed on train. For this purpose the Station Master on duty shall stand in such a position that he sees a clear view of the passing train and that his hand signals can clearly be seen by the Loco Pilot and Guard of the train.

He shall also depute the TPM on duty to the other side, for passing the train. The TPM on duty shall wave Green hand signal horizontally. He shall show danger hand signal if he notices anything is wrong and reports the same to the SM on duty.

The Station Master on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General and Subsidiary Rule. [Refer GR 3.42, 4.17, 4.42, & SR 4.42.02 (b) (i), (ii), (iii), (c) & (d)]

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

A. TRACK CIRCUITS:

In case of failure of track circuits, track clearance of the concerned line should be ensured physically before a train is piloted.

B. AXLE COUNTER:

In case of failure of the axle counter fails between the block section, resetting procedure will be adopted as per the SWR (Appendix-B). If the axle counter indication does not appear 'Green' after the 1st train passed & continues to show 'RED' condition after resetting, the concerned block section shall be suspended & failure intimation to be given to Sectional Signal Maintainer/JE/SE (Signal) for rectification.

C. BLOCK INSTRUMENTS:

In the event of partial/total failure of block instrument the concerned block instrument shall be suspended till its rectification and trains shall work as per GR. [Refer GR 6.02.03 and SR 6.02.06]

During this period of time the authority will be T/369(3b) with identification number and Private Number issued from the station in advance written both in figure and words.

D RECEPTION OF TRAIN ON OBSTRUCTED LINE:

Whenever trains are to be admitted on a blocked line, Calling-on signal may be taken off. If Calling-on signals failed then the SM on duty shall authorize on duty TPM with form T/509, indicating reasons for such admission the line number and nature of obstruction on that line. Before handing over the authority the SM on duty shall ensure the correct setting, clamping, and padlocking of both the facing and trailing end of the concerned route vide SR 3.69.03. A stop hand signal shall be exhibited by SM on duty at a distance of not less than 45 m from the point of obstruction to indicate the loco pilot as to where the train shall be brought to stand.

E. RECEPTION OF A TRAIN ON NON-SIGNALLED LINE:

Before receiving a train on Non-signaled line, the SM shall ensure that

- a. The train is brought to a stand at the first stop signal.
- b. The line on which it is intended to receive the train is clear up to the trailing points or up to the place at which the train is required to come to a stand.
- c. All points over which the train has to pass are correctly set & both, the facing and trailing points are clamped and padlocked.
- d. The Loco Pilot is authorized to pass the approach stop signals at 'ON' through a written authority i.e. T/369 (3b). [Refer GR 5.10].

F. DEFECTIVE SIGNALS:

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

In case of disconnection of signal and interlocking for repairs and maintenance, procedure laid down in GR and relevant SRs shall be followed. [Refer GR 3.51 & 3.68 to 3.77]

G. INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

However, before declaring a signal is defective, the setting of the point on the route to which it applies shall be inspected by the Station Master irrespective of the position of the switches point laid down in GR with relevant SRs shall be followed. [Refer GR 3.68, 3.70 & SR 3.77.01 (b)]

Initiate action in accordance with the procedure prescribed in GR and relevant Subsidiary Rules there to. [Refer GR 3.68 and 3.77]

H. DEFECTIVE INTERLOCKING:

When interlocking becomes defective the SM on duty shall be responsible for correct setting, clamping and padlocking of points for admission of train. [Refer SR 3.69.03 (c)].

CRANK HANDLE:

When any point fails to operate normally by the route setting operation through panel/VDU it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles are interlocked with signals and interlocking system. When points become defective, the signals controlling these points shall be considered defective and vice-versa and the procedure for use of crank handle for motor operated points shall be followed as per Operating Manual Para 20.06.

CRANK HANDLE

CONTROL POINTS

CH-1	-----	22 A/B
CH-2	-----	24 A/B, 25 A/B
CH-3	-----	23 A/B, 26 A/B
CH-4	-----	21 A/B
CH-5	-----	28, 34 A/B

These crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the RKT instrument at the respective Crank

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Handles Locations. Crank handle keys can be taken out only when all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle can be released by 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 that Crank Handle. This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points.

SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. If the Crank Handle is in locked condition and it is necessary to operate the concerned point by Crank Handle due to whatever reason then the concerned signal should be put back to "ON" position then Crank Handle Key can be taken out after two minutes by pressing common 'TRANS' push button and concerned Crank Handle control push button simultaneously. 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 are as per Appendix-'B').

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

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

Motor trolleys are to run in accordance with rules laid down in SRs. Material Lorries will work in accordance with SR. [Rules laid down in BWM. Refer SR 15.25.03 to 15.25.07, 6.11, 6.12 and 6.13 of BWM]

- i) Trolleys, Motor Trolleys, Lorries which are not insulated, shall not be allowed to run except on Line clear.
- ii) Motor Trolleys/Tower Wagon/Material Lorries are not likely to actuate the Axle Counter correctly.
- iii) In all other respects the Working of a light motor trolley shall confirm to the rules laid down for ordinary trolleys while running without block protection and to those laid down for motor trolleys while running under block protection or following another light motor trolley.

7.0 BLOCKING OF THE LINES:

Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement. Reminder collars shall be placed on the concerned point push button controlling the blocked line. A clear remark in 'RED' ink shall be made immediately in the train signal register and a record shall be made in the Station Master's diary also. Stable load register is also to be maintained. The stable load or loose vehicles are to be secured to prevent rolling down of vehicles. [Refer GR 5.23 and SR 5.23.01]

A. SECURING OF VEHICLES:

As far as practicable, loose vehicle shall not be allowed to stand on the running line. However under unavoidable circumstances, if it is necessary to detach vehicle from a train or to stable a train and leave them standing on the running line, the SM on duty shall be responsible to secure the vehicle/stable loads to prevent rolling down of vehicles and arrest obstruction and fouling.

NOTE

Special care should be taken to secure special type vehicles fitted with roller bearing while standing in siding or in running lines. [Refer GR 5.23 & SR 5.23.01]

B. USE OF REMINDER BLOCK COLLARS:

Whenever any running line is blocked or when a train is stopped to cross another train or detained for any other reason, even for a short while or during shunting operations, the reminder collars shall be used by the SM on duty on the push button concerned.

C. ALTERATION OF A POINTS TO A CLEAR LINE WHENEVER A RUNNING LINE IS BLOCKED:

- (a) When a running line is blocked by stable load, wagon, vehicles or by a train, which is to cross or to give precedence to a another train or immediately after the arrival of a train at the station etc, the points at either end should immediately be set against the blocked line except when any shunting or any other movement is required to be done immediately in that direction on that line.
- (b) If all the lines at 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 stable load or a goods train in that order, so that in case of any mishap, the chances of causalities are minimized. In case all the lines are occupied by passenger carrying trains, points should be set for a loop line to negotiate of which the speed of the incoming train would be reduced, which in turn would minimize the consequences/causalities. While doing so, points may be set for a loop occupied by a train, if any, whose engine is facing the direction of approach of the incoming train rather than for a loop occupied by a train whose passenger coach will incase, of collision, receive the impact.

D. LOADING AND UNLOADING OF VEHICLES ON RUNNING LINES:

Except smalls loading and unloading of vehicles on running line is prohibited unless permitted by DOM vide SR 5.19.01.

8. SHUNTING:**8.1. GENERAL PRECAUTIONS:**

Shunting will be carried out at the station in accordance with General Rule and relevant Subsidiary Rules and Block working Manual. [Refer GR 3.46, 3.52 to 3.56, 5.13, 5.14, 5.16, 5.19 to 5.23, 8.05, 8.06, 8.14 and 8.15]

The SM/Guard/Pointsman on duty is authorised to supervise shunting operation. Normally back shunt signals, shunt signal provided below the starter signal and caution aspect of starter signals shall be used for shunting operations. The official supervising shunting shall ensure the correct setting, clamping and padlocking of points in case of non-signaling movements. The SM on duty and the official supervising shunting shall co-operate with each other regarding shunting operations. Neither reception signals nor departure signals shall be taken 'OFF' unless the shunting is isolated and the path of incoming/outgoing train is free from obstructions. The over-run line may be used as shunting neck.

NOTE

For any signal movement physical verification of the clearance of the cross over points shall be ensured by the SM/Guard/Pointsman on duty for supervising shunting operation.

8.2 SHUNTING IN THE FACE OF AN APPROACHING TRAIN:

- (i) Shunting in the face of an approaching train is prohibited.

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8.3 PROHIBITION OF SHUNTING SPECIAL FEATURE IF ANY:

Hand/Fly shunting is prohibited at both ends of the yard. Shunting in the face of an approaching train is prohibited.

8.5A] SHUNTING OUTSIDE THE STATION SECTION:

- a) When line clear has been given, No shunting shall be permitted in the Block section in rear.
- b) Shunting or obstruction for any other purpose shall not be permitted in the Block section in rear unless it is clear and is blocked back.
- c) Shunting or obstruction for any other purpose shall not be permitted in the Block section in advance unless it is clear and is blocked forward vide GR 8.06 (3).

B] SHUNTING WITHIN STATION SECTION:

If necessary signals are kept at 'ON' shunting may be carried on within the station section but this shall be done only when there is no approaching train since shunting in face of an approaching train is prohibited at this station.

8.6 SHUNTING IN THE SIDING:

While shunting in the siding it should be authorized by issuing T/806 clearly mentioning the limits up to which shunting is permitted as also the lines occupied in shunting. The relevant provisions of GR 5.14 and SRs thereto shall be meticulously followed for shunting operations in siding.

i. SIDING:

The siding at VSKP end of the yard with one side entry is taking off from Common Loop (Line No. 1). The entrance point and corresponding derailing switch is coupled and operated by an arc lever at site. The entrance point is fitted with hand plunger lock. This hand plunger lock is unlocked by siding key A2 and released by pressing the button No. 30 and common group trans button provided on panel/VDU at SM's office. Reception signals (i.e. 2A, C2A in DN direction and 1C, C1C in UP direction) and Shunt Signal Nos. SH3B, SH4A, SH-6, SH-9, SH-16 and Signal No. 8 & 9 are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the siding key is taken 'OUT' from the RKT provided at siding location at site.

ii. HOT AXLE SIDING:

The Hot Axle siding at VSKP end of the yard is taken off from line No. 4 (UP loop). The entrance point & corresponding derailing switch are coupled & operated by an arc lever at site. The entrance point is fitted with hand plunger locks. The hand plunger lock is unlocked by Hot Axle siding key 'B'. & released by pressing the button No. 32 & common group trans button provided on panel/VDU at SM's office. Reception Signals (i.e. 1A, C1A in UP direction) & Shunt Signal No. 4D & Signal No. 7 are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the Hot Axle siding key is taken 'OUT' from the RKT provided at Hot Axle siding location at site.

iii. SHUNTING NECK:

The shunting neck is the extended portion of Line No. 1 towards VSKP end of the yard. It is terminated with a dead end and isolated by a derailing switch at CH: 576.0m. SH-9 controls the movement of trains to the Shunting Neck. Similarly, SH-6 controls the movement of trains from the Shunting Neck.

9.0 ABNORMAL CONDITION:**(i) PARTIAL FAILURE:**

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

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- a) Failure/Suspension of Block Instrument or Track Circuit or Axle counters- Line Clear shall be obtained on the Telephone attached to the Block Instrument or exchanging ID number and supported by Private Number.
- b) Failure/Suspension of Block Instrument or Track Circuit or Axle Counters or telephone attached to the Block Instruments:
'Line Clear' shall be obtained on Railway auto phone or BSNL phone by exchanging Identification Number supported by a Private Number.
- c) Failure/Suspension of Block Instrument or Track Circuit or Axle counters or telephone attached to the Block Instruments or Railway auto phone or BSNL phone.
'Line clear' shall be obtained on control phone by exchanging Identification Number supported by a Private Number.
- d) Failure/Suspension of Block Instrument or Track Circuit or Axle counters or Telephone attached to the Block Instruments or Railway auto phone or BSNL phone or control phone.
'Line Clear' shall be obtained on the VHF sets by exchanging identification Number supported by a Private Number.

The authority to proceed for the Loco Pilot on Double line territory is T/369(3b) bearing identification Number and Private Number received from the station in advance written both in figure and words. [Refer SR 6.02.06 & Chapter-VI of BWM]

ii. **THE AUTHORITY TO PROCEED IN OCCUPIED BLOCK SECTION IN CASE OF OBSTRUCTION OF LINE OR ACCIDENT:**

Rules and regulations for working trains on an obstructed line in case of obstruction or accident on the authority of block ticket (T/A-602) when communications are available shall be followed in accordance with the provisions which are summarized as follows. [Refer SR 6.02.05]

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

- a) The previous block ticket is collected & cancelled, or
- b) Necessary endorsement is given on the previous block ticket with the advice to wait at the site for a next train to follow, or
- c) The previous train has met with an accident or has been disabled, or
- d) The block ticket has been collected from the Loco Pilot of the previous train by the official in-charge at the site & kept in the personal custody & shall be kept until the arrival of the next train & such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.
- e) SM will suspend the absolute block system of working and both SM's concerned should arrange for running of trains on the authority of Block Ticket.
- f) SM at the dispatching end will hand over to the Loco Pilot the BLOCK TICKET as the authority which shall include.
- i). Caution order: Existing speed restriction shall be indicated in the Caution Order portion. The speed restriction to 15 KMPH during clear visibility and 10 KMPH when visibility is obstructed shall be clearly indicated.
- ii). An authority to pass the stop signals at 'ON' position.

- (a) Before resumption of Normal working a message between the SM's of the concerned station shall be exchanged with private number. [Refer SR 6.02.05 (d) (vi)].
The block ticket so issued must be collected by SM of either end with a certificate about the complete arrival of the train with its time and the section is clear of all obstructions from the Loco Pilot/Guard of the train and cancels it.

iii. **TRAINS DELAYED IN BLOCK SECTIONS:**

If a train carrying passenger does not arrive within 10 minutes OR if a goods train does not arrive within 20 minutes after allowing for its Normal running time from the

station in rear, the SM at the station in advance shall immediately advise the station in rear and the control this fact. There after SMs at either end of the Block section shall immediately stop all trains proceeding in to the block section on adjacent line in either direction and warn the Loco Pilots and Guards of such trains by issue of suitable Caution Orders. [Refer GR 6.04 & SRs thereto]

- iv) Failure of Axle Counter Block/BPAC – Procedure to be followed as detailed
- v) Procedure for emergency operation of points by Crank Handle.-
 - (a) The detailed Procedure for emergency operation of points by Crank Handle of motor operated points are given in main body of this SWR.
 - (b) Procedure for emergency operation of points with point zone Track circuits failure and emergency route release. [GR 3.39 and GR 3.77]
 - (c) Certification of clearance of track before Calling–on signal operation in initiated- Before taking off Calling–on signal during failure of track circuit, the route and the clearance of the track over which train would pass to be verified by SM.
 - (d) Reporting of failure of points, Track circuits/axle counter and interlocking- Whenever there is a failure of points, Track circuits/axle counter or any interlocking gear at station, the failure should be reported by SM on duty to the concerned Signaling Maintenance Staff on duty responsible for attending to the failure and only after receipt of the written memo from the Signalling Maintainer for rectification of the fault. SM should restore the Normal working

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

9.1 **TOTAL FAILURE OF COMMUNICATION:**

In the event of total failure of communications between BUDR-BHC and BUDR-KED i.e. when line clear cannot be obtained by any one of the following means stated in order of preference viz.:

- [A]. Block Instruments, Track Circuits or Axle counters.
 - [B]. Telephone attached to the Block Instruments.
 - [C]. Fixed telephones such as Railway auto phones & BSNL phones.
 - [D]. Control telephone.
 - [E]. VHF sets.
- i]. Each train before being allowed into the Block Section should be stopped and the Guard and Loco Pilot of the train apprised of the situation.
 - ii]. The SM shall give an authority for working of trains during total interruption of communication on Double line section to the Loco Pilot of each train which shall include:-
 - a) An authority (T/C 602) to proceed without 'Line Clear'.
 - b) An authority to pass the Last Stop Signal at "ON" position,
 - c) A caution order restricting the speed to 25 KMPH by day when view ahead is clear and 10 KMPH when view ahead is not clear.
 - iii] No train shall be allowed to enter the Block Section until there is a clear interval of 30 minutes between the train about to leave and the train, which has immediately proceeded.
 - iv] Fixed signals except the last stop signal may be taken "OFF" for the dispatch of the train and for the reception of the train at the next block station, reception signals may be taken off only after the train has been brought to a stand out side it.
 - v] On arrival at the next block station the Loco Pilot shall hand over the authority to proceed with out line clear to the SM on duty who will preserve the same for further inspection.

Before resuming Normal working when any means of communication is established. SM of either end must satisfy that there is No train in the block section. [Refer SR 6.02.03].

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9.2 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

During temporary single line working on one clear line when one line is obstructed either between BUDR-KED and BUDR-BHC, trains shall be worked as per the procedure as detailed below. [Refer SR 6.02.01]

- i) Before introducing single line working the SM on duty must satisfy that the line on which single line will be introduced is clear and free from all obstructions.
- ii) The Lock and Block instrument will be suspended.
- iii) The SM proposing single line working must issue a message with the cause of introduction of single line working, Line on which the single line will be introduced, Source of information about the clearance of the line on which single line will be introduced, Place of obstruction, restriction of speed, If any, assurance about keeping the last stop signal at 'ON' position if the train runs on right lines and in case of wrong line all signals are to be kept at 'ON' position, the number and the timings of last train which arrived or left the Block station issuing the message .
- iv) The SM of the other end block section will acknowledge the message and confirm the same by a Private Number.
- v) After obtaining line clear for the train from the Advance station the SM shall give following documents.
 - A) An authority for TSL working on double line (T/D 602) indicating there in..
 - (i) The line on which single line is introduced.
 - (ii) The kilo-meterages of obstruction.
 - (iii) Any other speed restriction existing, in the section.
 - (iv) Endorsement to inform all Gang man and Gateman about the single line working (for the first train only).
 - (v) The speed of the first train to be restricted to 25 KMPH subject to other speed restriction.
 - (vi) An authority to pass the last stop signal at its 'ON' position. The approach stop signals at the station in advance may be taken "OFF". In case a train proceeding on wrong line, the train shall be piloted out and at the receiving station, the train shall be piloted 'IN', on the authority of T/369(3b).

On being ensured that the obstructed line is clear of all obstructions, SM will resume Normal working after exchanging message with the SM of the other concerned end supported by private number in consultation with the SCR on duty.

A goods train or an engine may be allowed on wrong line by blocking back the section without introducing single line working. [Refer SR 6.02.05 (g) (i)]

Whenever total interruption of all communication occurs during single line working on double line, the procedure detailed in GR should be followed. [Refer SR 6.02.01]

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

Rules and regulations for working trains on an obstructed line in case of obstruction or accident on the authority of block ticket (T/A-602) when communications are available shall be followed in accordance with the provisions which are summarized as follows. [Refer SR 6.02.05]

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

- a) The previous block ticket is collected & cancelled, or
- b) Necessary endorsement is given on the previous block ticket with the advice to wait at the site for a next train to follow, or
- c) The previous train has met with an accident or has been disabled, or

- d) The block ticket has been collected from the Loco Pilot of the previous train by the official in-charge at the site & kept in the personal custody & shall be kept until the arrival of the next train & such assurance is given over the telephone installed at the site quoting the serial number of the Block Ticket so collected.
- e) SM will suspend the absolute block system of working and both SM's concerned should arrange for running of trains on the authority of Block Ticket.
- f) SM at the dispatching end will hand over to the Loco Pilot the BLOCK TICKET as the authority which shall include.
- iii). Caution order: Existing speed restriction shall be indicated in the Caution Order portion. The speed restriction to 15Kmph during clear visibility and 10Kmph when visibility is obstructed shall be clearly indicated.
- iv). An authority to pass the stop signals at 'ON' position.
- g) Before resumption of Normal working a message between the SM's of the concerned station shall be exchanged with Private Number. [Refer SR 6.02.05 (d) (vi)].
The block ticket so issued must be collected by SM of either end with a certificate about the complete arrival of the train with its time and the section is clear of all obstructions from the Loco Pilot/Guard of the train and cancels it.

10. **VISIBILITY TEST OBJECT:**

The signal lights of common loop starter signal No. 8 & 9 during day and night are the visibility test object vide GR 3.61.2 (b) (iii).

11. **ESSENTIAL EQUIPMENT AT THE STATION:**

(Details are given in Appendix-'E')

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

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

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

STATION DETONATOR REGISTER (OPT/124):

A Register regarding detonator is maintained at the station.

INSTRUCTIONS:

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

- b. As soon as a man is posted to or detailed for duty at a station as a Fog Signaller, the Station Master must satisfy himself that the man is fully acquainted with and understands the rules relating to the placing of detonating (fog) signals at stations during thick or foggy weather. As an assurance of this, the Station Master shall take the signature or thumb impression of such men in the appropriate column of Part - I of this register.
- c. In-charge of the station shall ensure that the information maintained in the register is kept up to date and is accurate in all respects.
- d. Transportation inspectors shall check the registers and also the stock of detonators on hand each time they visit the station and initial with date as an indication having done so.

13. **SYSTEM OF WORKING BETWEEN BAUDPUR STATION AND FACOR SIDING:**

1. (i) **TAKE OFF POINT OF THE SIDING:** The take off point of the siding is located at CH: 418.44 m from CSB/BUDR towards KED end.
 (ii) Movement inside the in-plant yard shall be controlled by the Siding Supervisor on Spot. Loco Pilot will observe the traffic signal given by the staff deputed by the siding authority for the movement with necessary safety precautions.

2. **DESCRIPTION OF THE INPLANT YARD:**

The CAL of the in-plant yard lines are as follows:

Line No.	Nomenclature	CAL
1	Engine Escape line	259 m (FM to FM)
2	Tippling line	702.45 m (FM to FM)
3	Gathering line	702.45 m (FM to FM)
	Brake van line	100 m (FM to SRJ)
	Sick line	80 m (DS to DE)

3. **MOVEMENT OF INWARD AND OUTWARD RAKES:**

a) **SYSTEM OF WORKING:**

- (i) One train only System.
 (ii) Movement of Trains to & from the FACOR siding are controlled by Shunt signals operated from the BUDR Panel. Take off point from FACOR siding is interlocked and next all point in in-plant yard are hand operated points.
 (iii) There is a stop board provided just before the non-interlocked hand operated point. Before entering into the in-plant yard, the Guard of the train shall stop his train before the stop board and after ensuring correct setting, clamping and padlocking of the hand points, he shall authorize the Loco Pilot of the train through the available means of communication to push the train into the siding.
 (iv) The train will proceed towards the in-plant yard by pushing.

b) **MEANS OF COMMUNICATION BETWEEN BUDR STATION AND FACOR SIDING:**

- (i) Magneto Telephone.
 (ii) Walkie-talkie.
 (iii) BSNL Phone.
 (iv) VHF Set.
 (v) Mobile Phone.

c) **CAUTION ORDER BOOK:**

A Caution Order Book shall be exclusively maintained at BUDR station for BUDR–FACOR Siding.

d) **WAGON TURN ROUND REGISTER:**

Two separate registers for inward & outward traffic are to be maintained by SM/BUDR with the following columns:-

Date, Pilot No., Load, Empty/Load rake, Departure time, Placement time, Loading/release time, Placement to release/loading time, Power arrival time/EOT time, Pressure ready time, Departure time from siding and arrival time at the station and Signature of Guard.

e) (A) **DISPATCHING OF TRAIN TO THE SIDING (FROM KED END):**

i) SM/BUDR on receiving information about inward rake meant for FACOR siding shall advise the siding supervisor of M/s FACOR Power Plant.

ii) Thereafter, the siding Supervisor of M/s FACOR Power Plant shall advise the staff to set, clamp & padlock the nominated line in favour of the incoming train correctly.

iii) After ensuring correct setting, clamping and padlocking the nominated hand points, the siding supervisor shall issue the line clear authority for the FACOR siding in the given format and send it to SM on duty at BUDR. He shall also depute a pointsman to the station to see the clearance of the route and accompany the train from station to siding. The line clear ticket shall be maintained in the following proforma by the siding authority:

1. Train No.:
2. Date:
3. Time:
4. Train will be admitted on line No.:
5. Condition of points pertaining to the line are ____, ____ & ____.
6. Private Number in figure ____ & Words_____.

Signature

Name_____

Designation of siding authority_____

iv) Before issuing the line clear authority, the siding supervisor shall ensure that the reception line along with lead line is clear and free from all obstruction.

v) The SM on duty shall admit the incoming train on line No. 1 (Common loop) at BUDR.

vi) After receiving line clear authority and private number, the SM on duty shall set and lock the relevant point in favor of the FACOR plant siding and take 'OFF' the Shunt Signal for backing the full train to the siding. Before taking off shunt signal, he shall issue the line clear authority to the Loco Pilot. The pointsman of the Company shall accompany the train up to the siding.

vii) Observing the 'OFF' aspect of Shunt Signal, the Guard of the train shall advise the Loco Pilot of the train through walkie-talkie to start backing into the siding.

(B) **DISPATCHING OF TRAIN TO THE SIDING (FROM BHC END):**

The train meant for FACOR siding shall be admitted on line No. 1. Power of the train shall be reversed. Thereafter, i) to vii) of (A) above shall be followed.

f) **COMPLETE ARRIVAL OF TRAIN AT THE SIDING:**

The siding supervisor of the train will ensure complete arrival of the train in in-plant yard and repeat it to SM on duty at BUDR supported by a private number.

The movement of power inside the siding will be done under the direct supervision of the staff deputed by the siding authority.

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- g) **SECURING OF VEHICLES AT THE IN-PLANT YARD:**
The vehicles shall be secured in the siding by the siding authority whenever required.
- h) **RECEPTION OF A TRAIN FROM FACOR SIDING:**
- (i) Siding supervisor and Guard of the train should take the empty rake movement direction from SM on duty at BUDR. Accordingly the MT will be marshaled inside the in-plant yard in course of tipping of the inward rake.
 - (ii) When the train is ready in all respect to dispatch, the siding supervisor shall inform to the Station Master.
 - (iii) The siding supervisor at in-plant yard shall ask for line clear to SM on duty at BUDR.
 - (iv) After ensuring clearance of line No. 1, SM on duty at BUDR shall give one private number in support of line clear and take off the Shunt Signal for the incoming train.
 - (v) Observing the 'OFF' aspect of Shunt signal, the Loco Pilot shall admit his train on line No. 1.
 - (vi) After complete arrival of the train, SM on duty shall put back the Shunt Signal and normalize the points and communicate the intact private number to siding supervisor.

APPENDICES

- APPENDIX-A : WORKING OF LEVEL CROSSING GATES.
- APPENDIX-B : SYSTEM OF SIGNALLING AND INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT THE STATION.
- APPENDIX-B1 : STAND BY OPERATION OF SIGNALS, POINTS, CRANK HANDLES, SIDING POINTS BY VDU (PC)
- APPENDIX-C : ANTI COLLISION DEVICE (RAKSHA KAVACH).
- APPENDIX-D : DUTIES OF TRAIN PASSING STAFF AND STAFF IN EACH SHIFT.
- APPENDIX-E : LIST OF ESSENTIAL EQUIPMENTS PROVIDED AT THE STATION.
- APPENDIX-F : RULES OF WORKING OF DK STATION, HALTS, IBH, IBS AND OUTLYING SIDINGS.
- APPENDIX-G : RULES FOR WOKING OF TRAINS IN ELECTRIFIED SECTIONS.

SWR OF BUDR

APPENDIX 'A' TO STATION WORKING RULES OF BAUDPUR STATION

----- NIL -----

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Sr. DEN(N)/KUR

(B. PANDA)
DOM/KUR

**SYSTEM OF SIGNALING, INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT
BAUDPUR STATION**

1.0 This is a class 'B' Standard-III Electronic Interlocking station with Route setting type panel. The points and Signals etc. are power operated from composite miniature central panel or VDU installed in the Station Master's Office. The Station is equipped with Multiple Aspect Colour Light Signaling.

1.1 **DESCRIPTION OF OPERATION CUM INDICATION PANEL:**

The yard layout is depicted on the panel and the panel is fixed parallel to the track so that when the Station Master faces the panel, the yard drawing of the panel corresponds to the actual layout. All the points and signals are operated from the panel placed centrally at the station. A visual Display Unit (Computer) is provided in the SM's office as a stand by option.

(The description and function of Visual Display Unit is given in Appendix-"B-1")

1.2 **POINT OPERATION:**

Points are normally operated automatically along with route setting operation. However, required points can be operated individually also. For this point push buttons, BLACK in colour are fitted over the point layout on the panel board. The individual operation of the electric point machine is controlled by these point push buttons in conjunction with the point group button (black with red dot) (Normal) or (Reverse) as per requirement, fitted on the top of panel.

1.2.1 When a point is set and locked in Normal position, a 'Yellow' strip light on straight line indication appears suggesting that the point is in NORMAL position.

1.2.2 When a point is set and locked in REVERSE position, a 'Yellow' strip light in reverse indication appears suggesting that the point is in REVERSE position.

1.2.3 When the points of any route have been correctly set and relevant signal is taken 'OFF', 'RED' indication appears near the points indicating that the concerned points are locked either in NORMAL or REVERSE.

When the points are neither set nor locked either in NORMAL or in REVERSE correctly, the normal and reverse indication will not be there but the indication will start flashing till such time the point is housed and locked properly in one of the positions. In such case points are to be set both ways by crank handle and clamped and padlocked. This indication will flash during point operation also.

1.2.5 All points over running lines are operated by electric point machines.

1.2.6 The cause for non setting of the point in the desired position shall be checked up by the Station Master on duty according to GR and SR 3.68.01 (c). If there is a defect other than an obstruction, this point shall be considered defective and action shall be taken for clamping and padlocking of these points in the desired position by the Station Master on duty himself for all trains according to SR 3.69.03 (c). In such case both ends of the point shall be clamped and padlocked.

1.2.7 **DESCRIPTION OF POINT PUSH BUTTON:**

a) **HWH END POINTS:**

Sl. No.	Button No.	Colour	Description
1.	21 A/B WN	BLACK	Crossover point between UP and DN main lines.
2.	25 A/B WN	BLACK	Crossover point between Common Loop and DN Main Lines.
3.	23 A/B WN	BLACK	Crossover point between UP Loop and UP Main Lines.

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b) **VSKP END POINTS:**

Sl. No	Button No.	Colour	Description
1.	22 A/B WN	BLACK	Crossover point between UP and DN Main Lines
2.	24 A/B WN	BLACK	Crossover point between Common Loop and DN Main Lines.
3.	26 A/B WN	BLACK	Crossover point between UP Main and UP Loop Lines.
4.	34 A/B WN	BLACK	Crossover point between Common Loop and FACOR power plant siding
5.	CONTROL 32	BLACK	Control on Hot Axle siding.
6.	CONTROL 30	BLACK	Control on siding.

1.2.8 **DESCRIPTION OF POINT GROUP BUTTON:**

There are two point group buttons (Black with red dot) at the top of panel one for Normal and one for Reverse operation of points. The button is operated in conjunction with point button to operate the concerned point to the required setting.

1.2.9 **MANUAL OPERATION OF POINTS (CRANK HANDLES):**

When any point fails to operate normally by the route setting operation or through the concerned point button through panel, it is inevitable to operate the points with crank handle. This operation is only possible when concerned route is not set and crank handle lock indication is not lit. For manual operation of points, relevant crank handle key has to be extracted from the RKT location. Station Master on duty shall personally ensure clamping and padlocking all facing and trailing points enroute.

Crank handles are interlocked with signals and interlocking system. The CH push button (Blue) and group button (white with black dot) is provided at the top of the panel board. This button has two indications, viz. WHITE and RED. The WHITE indication suggests that the crank handle key is in its interlocked position of the panel. This is called 'Crank Handle Key' 'IN' indication.

The Red indication suggests that the crank handle key is locked and not free for extract from RKT. This is called 'Crank handle key locked' indication. The Crank Handle is normally kept in a locked box fitted in panel room and the key is with SM on duty. This crank handle is Common to all points and is to be taken along with CH key for manual operation of point.

For extracting CH key from RKT SM has to press relevant CH button and group trans button simultaneously. The white light besides the CH button starts flashing. After extraction of CH key from RKT by deputing an operating staff at concerned crank handle Location box flashing white light disappears. On extraction of CH key from RKT, the points in that particular group can not be operated from the panel. After completion of point operation the CH key will be retransmitted to the station electrically by inserting the CH key in RKT at Location box and turned, the white flashing indication appears on the panel board. The flashing will be stopped and steady indication appears on pressing concerned CH button and group release button (white with black dot). Points for manual operation are grouped into four crank handle zones.

1.2.10 CRANK HANDLE PUSH BUTTON:

1.	CH-1	BLUE	To be pressed to extract Crank Handle Key for operation of Point No. 22 along with “TRANS” Push Button
2.	CH-2	BLUE	To be pressed to extract Crank Handle Key for operation of Point No. 24 and 25 along with “TRANS” Push Button.
3.	CH-3	BLUE	To be pressed to extract crank handle key for operation of point No. 23 & 26 along with “TRANS” push button.
4.	CH-4	BLUE	To be pressed to extract crank handle key for operation of point No. 21 along with “TRANS” push button.
5.	CH-5	BLUE	To be pressed to extract crank handle key for operation of point No. 28 & 34 along with “TRANS” push button.

1.2.11 EMERGENCY POINT OPERATION (BLACK WITH RED DOT):

Emergency point operation facility is provided to operate the point from the panel in case of failure of point controlling track circuit when the concerned point is free. If such operation is necessary, the SM on duty, after ensuring that no vehicle is standing on the concerned point track circuit shall insert the emergency point operation key and press the emergency point operation button (Black with Red dot) along with relevant point button simultaneously. Then retaining 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’. All such operations will be registered in the emergency point operation counter. Each operation of emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

1.3 ROUTE SETTING AND INDICATION:

Route buttons are provided separately on each running line on the panel for initiation of route. Route buttons are also provided for taking off starters. An individual route button is provided for taking off Advanced Starter for clearing the signals. It is necessary to operate the signal buttons and the concerned route button simultaneously for taking “OFF” concerned signal. This will set the points of intended route including overlap. When the route is correctly set and signal is taken off YELLOW strip of light indication appear on track circuits over the route set. These track indications will turn to RED as and when the train occupies the track circuit.

1.3.1 DESCRIPTION OF ROUTE BUTTONS:

Sl. No.	Button No.	Colour	Description
1.	L1-UN	WHITE	Route button for UP/DN Home signal for Common Loop line overlap set to main line.
2	L1-UN1	WHITE	Route button for UP/DN Home signal overlap set to Over Run line, UP Calling-on signal, SH3, DN Calling-on signal and SH4 Signal for common loop line.
3	L2-UN	WHITE	Route button for DN Home/ DN Calling-on/Shunt signal No. 3.
4.	L3-UN	WHITE	Route button for UP Home/ UP Calling-on/Shunt Signal No. 4 for DN main line.
5.	L4-UN	WHITE	Route button for UP Home/UP Calling-on/Shunt Signal No. 4 for UP Loop line.
6.	L4-UN1	WHITE	Route button for UP Home/UP Calling-on/Shunt Signal No. 4 for UP Loop line overlap set to sand hump.

7.	13AT- UN	WHITE	Common route button for UP Main Starter Signal No. 11 and UP Common Loop Starter Signal No. 9 & UP Loop Starter Signal No. 7.
8.	14AT-UN	WHITE	Common route button for DN Main Starter Signal No.12 and Common Loop Starter Signal No. 8.
9.	13 UN	WHITE	Route button for UP Advanced Starter Signal No.13.
10.	14 UN	WHITE	Route button for DN Advanced Starter Signal No.14.

1.4 **SIGNAL BUTTONS:**

These are RED coloured push button on the panel near the stop signals on the panel. These are operated in conjunction with Route button (WHITE coloured) to take 'OFF' the signals.

1.4.1 **DESCRIPTION OF SIGNAL BUTTONS:**

Sl. No.	Button No.	Colour	Description
1.	C1 A/B/C	RED with WHITE Dot	UP Calling-on signal for UP Loop, UP Main and Common Loop lines.
2.	1 A/B/C	RED	UP Home Signal for UP Loop, UP Main and Common Loop Lines.
3.	2 A/B	RED	DN Home Signals for DN Main and Common Loop Lines.
4.	C2 A/B	RED with White dot.	DN Calling-on signal for DN Main and Common Loop Lines.
5.	SH3 A/B	YELLOW	Shunt Signal for Common Loop and DN Main Line.
6.	SH4 A/B/C/D	YELLOW	Shunt Signal for UP Main, DN Main, UP Loop and Common Loop lines.
7.	SH-6	YELLOW	Shunt Signal for Line No. 1 from the extended portion of Over Run Line of Line No. 1.
8.	7	RED	UP Loop Starter.
9.	8	RED	Common Loop Line Starter
10.	9	RED	Common Loop Line Starter
11.	SH-9A/B	YELLOW	Shunt Signal for the extended portion of Over Run line of line No. 1 and towards FACOR power plant siding.
12.	11	RED	UP Main Line Starter.
13.	12	RED	DN Main Line Starter.
14.	13	RED	UP Advanced Starter.
15.	14	RED	DN Advanced Starter.
16.	SH-16	YELLOW	Shunt Signal for Line No. 1 from FACOR power plant siding.

1.4.2 **SIGNAL CLEARANCE AND INDICATION:**

Signal clears automatically as per operation stated vide 1.3 as per route setting. For clearing the Calling-on signal, Calling-on signal button along with the nominated route button to be pressed.

The aspects of the signals as obtained at any time are shown on the panel on the signal indication along side of the track. The 'ON' aspect inactions of stop signals are 'RED' and 'OFF' aspect indications are 'GREEN' on panel. The 'ON' aspect of Distant Signal is 'YELLOW' and 'OFF' aspect is 'GREEN' on the panel.

1.4.3 **MISCELLANEOUS PUSH BUTTONS AND KEYS:**

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 BUTTON	WHITE WITH BLACK DOT.	To be pressed to initiate Slot of Crank Handle.
4	GROUP RELEASE PUSH BUTTON	WHITE WITH BLACK DOT.	To be pressed to withdraw / Normalize the control of slot / Crank Handle.
5	POINT GROUP NORMAL PUSH BUTTON	BLACK WITH RED DOT.	To be pressed to initiate "NORMAL" setting of point along with concerned point push button.
6	POINT GROUP REVERSE PUSH BUTTON	BLACK WITH RED DOT.	To be pressed to initiate "REVERSE" setting of point along with concerned point push button.
7	EMERGENCY ROUTE RELEASE PUSH BUTTON	WHITE WITH RED DOT.	To be pressed for emergency Route Release.
8	SIGNAL CANCELLATION PUSH BUTTON	RED	To be pressed for canceling a signal which is already taken "OFF" or to release Adv. Starter and calling on routes after passage of train.
9	SIGNAL LAMP FAILURE / POINT FAILURE ACKNOWLEDGEMENT	RED WITH WHITE DOT	To be pressed for acknowledging signal lamp failure/ point failure Buzzer one for signal & another for point.
10	EMERGENCY POINT OPERATION BUTTON	BLACK WITH RED DOT	To be pressed to operate the point when concerned point zone track circuit fails.
11	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.
12	SIDING CONTROL POINT NO. 30 PUSH BUTTON.	BLACK	To be pressed along with TRANS button for extracting key from RKT to operate the siding point.
13	HOT AXLE SIDING CONTROL POINT NO. 32 PUSH BUTTON.	BLACK	To be pressed along with TRANS button for extracting key from RKT to operate the hot axle siding point.
14	RESET PUSH BUTTON FOR UP LV AT BHC END	RED	To be pressed for initiating reset for axle counter for section BHC - BUDR

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15	RESET PUSH BUTTON FOR DN LV AT BHC END	RED	To be pressed for initiating reset for axle counter for section BUDR - BHC.
16	RESET PUSH BUTTON FOR UP LV AT KED END	RED	To be pressed for initiating reset for axle counter for section BUDR - KED.
17	RESET PUSH BUTTON FOR DN LV AT KED END	RED	Reset key to be inserted on the panel for resetting the Axle counter for section KED - BUDR.
18	RESET KEY FOR UP LV AT BHC END		Reset key to be inserted on the panel for resetting the Axle counter for section BHC-BUDR.
19	RESET KEY FOR DN LV AT BHC END		Reset key to be inserted on the panel for resetting the Axle counter for section BUDR-BHC.
20	RESET KEY FOR UP LV AT KED END		Reset key to be inserted on the panel for resetting the Axle counter for section BUDR - KED.
21	RESET KEY FOR DN LV AT KED END		Reset key to be inserted on the panel for resetting the Axle counter for section KED - BUDR
22	PREP RESET		Yellow indication will appear on the panel after resetting.
23	UP BLOCK RELEASE PUSH BUTTON	CHOCOLATE WITH WHITE DOT	To be pressed for normalizing the Block Instrument for section KED - BUDR.
24	DN BLOCK RELEASE PUSH BUTTON	CHOCOLATE WITH WHITE DOT	To be pressed for normalizing the Block Instrument for section BHC - BUDR.
25	Panel/PC switch		Required for selection of operation from PC or Panel.
26	System failure acknowledgement	GREEN WITH RED DOT	To stop the system failure buzzer.

1.5 **MICROLOK INDICATION**

A Microlok Indication is provided on the top of the panel for indicating which system of Microlok is working. This EI unit consists of two Microlok systems called system 'A' and system 'B'. These two systems status (ON/OFF) will be indicated separately on the panel. If the Microlok unit is 'ON', 'GREEN' indication will appear and if 'OFF', 'RED' indication appears. If any one of the "ON" line system fails automatically, "OFF" line system will change to 'ON' line with a gap of 120 seconds. A system failure buzzer is provided on the panel board. To stop the Microlok unit buzzer, SS/SM on duty has to press the system failure acknowledgement button provided on the top of the panel and intimate the same to ESM/JE/SE (Sig) in-charge for rectification of failure. Whenever the system changes from 'A' to 'B' or B to A, SM on duty has to release all crank handles and siding controls.

1.6 **POINT FAILURE INDICATION (RED) /POINT FAILURE BUZZER/POINT FAILURE ACKNOWLEDGEMENT BUTTON (RED WITH WHITE DOT):**

Whenever there is failure of point due to non-setting, point failure indication flashing light appears near the point button along with point failure Buzzer. The buzzer stops when the point failure acknowledgement button is pressed, but the flashing light above the ACK button shall continue to glow. The flashing light at the concerned point zone can identify the defective point. After the failure is rectified, the flashing light above the ACK button will disappear.

1.7 **FAILURE OF LED SIGNAL AND MUTING BUTTON:**

LED Signals have been used at this station. Failure of signals will be indicated by the flashing indication of the concerned signal and appearance of "RED" light on indication panel along with audible buzzer, which can be stopped by pressing the acknowledgement button. But the 'RED' light will glow until the LED signal is replaced. For rectification of failure, SM on duty should inform the ESM/JE/SE (Signal) about the failure.

1.8 **EMERGENCY ROUTE RELEASE COUNTER:**

This counter is provided to register the number of operations made for emergency cancellation of route. The Station Master must record the last number registered on the counter while taking over/handing over duty.

1.9 **EMERGENCY ROUTE RELEASE INDICATION (WHITE) EMERGENCY ROUTE RELEASE BUTTON (WHITE WITH RED DOT):**

The panel interlocking is based on the principle of 'DEAD APPROACH LOCKING'. As such when a route is set and signal is taken 'OFF' 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 the concerned signal button. After this first the emergency route release button (white with red dot) positioned in the top of panel to be pressed and subsequently the concerned signal button is to be pressed releasing the emergency route release button. A flashing white light above the emergency route release button will lit indicating that the timer has started. After 120 seconds, the white light along with the Yellow strip of light will disappear suggesting the route has been released.

In case the route illumination (Yellow 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 get the emergency route release button sealed after rectification of fault if any.

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

1.10 **SEQUENTIAL (AUTOMATIC) ROUTE RELEASE:**

The Signal routes are automatically released by the passage of train over the route. All the routes will be released on occupation of the berthing track circuit and clearance of the track circuit behind except Calling-on signal and advanced starter signals for which concerned signal button & Signal cancellation button are to be pressed in addition.

1.11. BUTTON HELD ACKNOWLEDGE (WHITE WITH RED DOT):

All push buttons are self-restoring type. A button held acknowledgement push button along with a white light is positioned at the top of the panel. When any point, route or signal button gets stuck in pressed condition, a buzzer will sound along with flashing white light indication. The Station master shall stop the buzzer by pressing the button held acknowledgement button (white with Red dot). The buzzer will stop but the flashing white light of either point, route or signal will continue to glow until the pressed button is normalized. SM on duty shall try to find out the pressed button for normalization or otherwise inform the maintenance staff to rectify.

1.12. OVERLAP TIME RELEASE (WHITE LIGHT):

Separate indications (White Light) for each overlap is provided near the starter signal to indicate the free or locked condition of overlap. This indication light will glow when overlap is locked by any Home Signal route and there will be no light when overlap is free. The locked indication starts flashing when the approaching train clears the rear end point zone track and occupies the berthing track. After a time release of 120 seconds the white flashing light will disappear indicating concerned overlap is free.

1.13. TRACK CIRCUITS:

Entire station section is track circuited. In addition there are short length track circuits in advance of Advanced Starter Signals and Home signal in both the directions are also provided. For Calling-on signals (91M Rail length) track circuits are also provided in rear of the Home signals in both directions. From last trailing point/fouling mark in either side of Yard to Advanced Starter Signals are also track circuited (i.e. 13AT and 14AT in UP and DN directions respectively). Indications for the above track circuits are available on panel/VDU at SM's office. White light on panel indicates track clear and Red light indicates track occupied condition.

1.14. AXLE COUNTER:

Entire Block Section between BUDR-BHC and BUDR-KED are provided with Digital axle counter.

FOR SEC: BUDR-BHC. A pair of Digital axle counter is provided between BUDR-BHC on UP line one just beyond UP Advanced Starter BHC and another pair is on track 1T2 i.e. beyond the UP Home Signal at BUDR. Similarly, a pair of Digital axle counter is provided between BUDR-BHC on DN line one just beyond DN Advanced Starter of BUDR and another pair is on track 2T2 i.e. beyond DN Home Signal of BHC.

FOR SEC: BUDR-KED. A pair of Digital axle counter is provided between BUDR-KED on UP line one just beyond UP Advanced Starter BUDR and another pair is on track 1T2 i.e. beyond the UP Home Signal of BUDR. Similarly, a pair of Digital axle counter is provided between BUDR-KED on DN line one just beyond DN Advanced Starter of KED and another pair is on track 2T2 i.e. beyond DN Home Signal of BUDR.

The position of the Block section whether cleared or occupied are reflected in the panel diagram provided in the Station Master's office which shows 'GREEN' when the Block Section is clear and 'RED' when occupied. Whenever a train enters 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 shall not come to OFF and the concerned instrument shall remain locked in last operated position.

A resetting arrangement for resumption of the system in case of failure of axle counter has been provided in the SM office of the adjacent Block stations after being assured by both the SM that the last vehicle has arrived complete at the receiving station by exchanging Private Number then resetting to be complied with. (Details of resetting procedure given in Appendix-'B' of this SWR)

In case of failure of analog Axle Counter the re-setting of axle counter must be done as per the procedure given in Appendix-"B" of this SWR. In the event of failure of Axle Counter/ Track circuit the clearance of loop lines and concerned point zone and main lines will be ensured by physical check by the SM on duty and train shall be admitted as per GR 3.69 and SR thereto.

NOTE:

Before taking off reception and dispatch signals for UP and DN 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 circuit indication. The indication of track circuit will exhibit Red Light when track is occupied and White light when track is clear. There will be No track indication when any route is not set.

2.0. **STATION MASTER'S PANEL CONTROL KEY:**

The panel is fitted with Station Master's lock up key to prevent any unauthorized operation of the panel. The Station master on duty is the only authorized person to operate the panel and the panel key must always remain in his personal custody vide SR 3.36.03 and GR 5.08. The key locks the panel board and no operations are possible. In case of emergency, signals can be put back to danger by operating concerned signal button and signal cancel button without SM's key also. However, the provisions of SR 3.36.02 shall be followed while replacing the signals to 'ON'.

2.2. **SETTING OF ROUTE AND TAKING OFF RECEPTION SIGNALS:**

For setting a route all the concerned points must be set by operation of relevant point button and group button one at a time in the desired position or by operating signal button and route Button. As soon as the required points are set to the required position, the concerned signal for the route will clear and a Yellow strip of light will appear on the entire route confirming that the Route is set and locked. The signal 'off' indication will appear on the panel.

2.3. **SETTING OF ROUTE AND TAKING OFF DEPARTURE SIGNALS:**

For setting a particular route for departure of a train, all the concerned points must be set by operation of point button and group button one at a time in the desired position or by operating signal button and route button.

To take off Advanced Starter, line clear must be obtained from the concerned block station in advance. Then the concerned Advanced Starter Signal button shall be pressed along with the Advanced Starter route button for two to three seconds and released. This will clear the Advanced Starter Signal and a yellow strip of light will appear on the panel.

To take off the starter signal the concerned signal button to be pressed and at the same time Common Route button to be pressed for two to three seconds and released. This will clear Starter Signal and a yellow strip of light will appear on the route from the concerned starter to the advanced starter.

2.4. **TAKING OFF CALLING-ON SIGNAL:**

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

To take off Calling-on signal the train must come to stop at the foot of the home signal, occupying the track circuit (1AT, 2AT as the case may be) in rear of the Home signal. When a train occupies the track circuit, a 'RED' light strip will appear on the panel. The particular route on which train is intended to be received shall be set by operating the point push button and group button individually or by pressing signal and route button or by crank handling in the event of failure of operation of points through panel. After the route is set, the Calling-on signal button 'C1'/'C2' (Red with white dot) (as the case may be), shall be pressed simultaneously along with the concerned route button for 2-3 seconds and released. After a lapse of 120 seconds, the Calling-on signal clears i.e. Yellow light glows at the concerned Calling-on signal on the panel.

NOTE:

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

2.5 **RELEASE OF ROUTE:**

Normally when a train is received on any route and dispatched, the route illumination will disappear automatically after passage of the train suggesting that the route is released.

NOTE:

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

2.6. **REPLACEMENT OF SIGNALS TO 'ON':**

Signals are replaced to 'ON' automatically by the passage of a train pass the signal. It will not be possible to re-clear the signal again unless the due process for clearing the signal is repeated again. For replacement of any signal to 'ON' position manually, the respective signal button and the signal cancellation button (RED) to be pressed simultaneously.

2.7 **INTERLOCKING OF SIGNALS/POINTS:**

All running line points are fitted with facing point locks in the point machine and are electrically detected to take off the signals.

- 2.7.1. Advanced Starter is interlocked with respective Block Instrument in Line Clear Position. The Block Instrument cannot be made normal unless the respective Home signal is put back to 'ON' aspect and the respective block section monitored by axle counter is clear of trains. Signals once taken 'OFF' can be put back to danger in case of emergency by pressing concerned signal button and signal cancellation button even when the panel is locked up with Station Master's key.

2.8 **STOP BOARDS:**

One stop board at the VSKP end of the station yard and two Stop Boards at HWH end of the yard are provided at VSKP end, one at end of DN Main line to demarcate DN Main line position up to which shunting can be performed (with SH-3). At HWH end the stop board is provided at the end of UP main line to demarcate UP main line position up to which shunting can be performed (with SH-4). Another one is provided on UP loop line to demarcate UP loop line position up to which shunting can be performed with SH-4.

2.9. **PILOTING OF TRAINS IN TO STATION YARD:**

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

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

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

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

NOTE:

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

2.10 **PILOTING OF TRAINS - OUT OF STATION YARD:**

When the starter signal has become defective, the Station Master shall set the points correctly from the panel or advise the TPM to set the concerned points correctly for the outgoing train with help of crank handle. The TPM on duty shall clamp and padlock both the facing and trailing end points under the supervision of SM on duty in both cases. The SM on duty shall then authorize the TPM on duty to hand over the pilot memo T/369(3b) along with other authorities if any to the Loco Pilot of the Train. Thereafter, he shall display proceed hand signal at the foot of the starter signal vide SR 3.70.01.

In case of Advanced Starter Signal becomes defective such signal shall be passed on the written authority on the form T/369(3b) proceed hand signal shall not be displayed vide SR 3.70.02. The TPM shall hand over the pilot memo in form T/369(3b) to the Loco Pilot after the train stopped.

NOTE

1. The SM on duty shall personally supervise the correct setting clamping and padlocking of the facing points and trailing points on the concerned route for dispatch of a train.

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2. The keys of the padlock used for clamps on the points shall be kept in the personally custody of the SM on duty till such movement is either completed or alternatively cancelled.

3.0. **SHUNTING:**

For shunting, shunt signal provided below starter signal, back shunt signal and caution aspect of starter signals shall be used.

For back shunting individual shunt signal No. 3, 4 and 6 are provided at the yard for shunting purposes. The particular route on which it is intended to do shunting is to be set by operating the desired 'points' individual from the point or by pressing the shunt signal button and the required route button simultaneously for 2-3 seconds. When the route is set and locked correctly Yellow strip of lights will appear on the route and the concerned shunt signal shall display 'OFF' aspect.

3.1 **DESCRIPTION OF SIDING:**

While shunting in the Siding/Hot axle siding it should be authorized by issuing T/806 clearly mentioning the limits up to which shunting is permitted as also the lines occupied in shunting. The relevant provisions in GR 5.14 and SRs thereto shall be meticulously followed for shunting operations.

i. **SIDING:**

The siding at VSKP end of the yard with one side entry is taking off from Common Loop (Line No. 1). The entrance point and corresponding derailing switch is coupled and operated by an arc lever at site. The entrance point is fitted with hand plunger lock. This hand plunger lock is unlocked by siding key A2 and released by pressing the button No. 30 and common group trans button provided on panel/VDU at SM's office. Reception signals (i.e. 2A, C2A in DN direction and 1C, C1C in UP direction) and Shunt Signal Nos. SH3B, SH4A, SH-6, SH-9, SH-16 and Signal No. 8 & 9 are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the siding key is taken 'OUT' from the RKT provided at siding location at site.

ii. **HOT AXLE SIDING**

The Hot Axle siding at VSKP end of the yard is taken off from line No. 4 (UP loop). The entrance point & corresponding derailing switch are coupled & operated by an arc lever at site. The entrance point is fitted with hand plunger locks. The hand plunger lock is unlocked by Hot Axle siding key 'B'. & released by pressing the button No. 32 & common group trans button provided on panel/VDU at SM's office. Reception Signals (i.e. 1A, C1A in UP direction) & Shunt Signal No. 4D & Signal No. 7 are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the Hot Axle siding key is taken 'OUT' from the RKT provided at Hot Axle siding location at site.

iii. **SHUNTING NECK:**

The shunting neck is the extended portion of Line No. 1 towards VSKP end of the yard. It is terminated with a dead end and isolated by a derailing switch at CH: 576.0m. SH-9 controls the movement of trains to the Shunting Neck. Similarly, SH-6 controls the movement of trains from the Shunting Neck.

4.0 **VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAIN INTO STATION YARD:**

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

4.2 INSTRUCTIONS REGARDING STABLING OF TRAINS ON RUNNING LINES:

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

5.0 MAINTENANCE OF S & T INSTALLATION AND ADHERENCE TO MAINTENANCE SCHEDULES:

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

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

6.0. PROCEDURE TO BE FOLLOWED INCASE OF FAILURE OF AN INTERLOCKING GEAR:

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

INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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 irrespective of the position of the buttons.

RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

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

7.0. PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:

Whenever any normal maintenance or special works for major renewals etc. are involved, the Signal and Telecom department should preplan these works. Field staff and the Inspector of the section should give to the Station master in writing 'Advance Intimation' about this work in terms of G and SR 15.08.01.

8.0 EMERGENCIES:

Notwithstanding, anything contained in the aforesaid paras when equipment is found defective and unsafe for passage of trains, the Signal and Telecom staff must at once suspend the working of the equipment and associated installations and issue 'Suspension Memo' explaining the seriousness of the defect or damage to the

interlocking installation to the Station master and take the Station Master's acknowledgement. After this, the usual practice of exchange of disconnection memo and reconnection memo can follow. The Station Master must act promptly on such messages and take adequate precaution treating the S&T installation as defective and pass trains over the affected interlocking equipment's according to extant instructions as contained in GR and SR 3.77.

PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNALS AND POINTS AND USE OF CRANK HANDLE:

When the crank handle key is removed from RKT for operation of the defective motor operated points, the responsibility for its safe custody rests with the Station Master on duty, till it is replaced back in RKT.

The cases of failure of motor operated points should be promptly reported to the concerned Signal maintainer/Signal Inspector for rectification.

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. The points will be treated as defective until the Emergency Crank Handle is returned back to the Station Master on duty.

Before giving 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 put back to 'ON' position. The points for the affected lines should be treated as non-interlocked. 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 both facing and tailing points over which the train is to pass, as per GR.3.69 and 3.70 with relevant SRs. The Station Master on duty will be personally responsible for setting and locking of points for reception and despatch of all trains.

The Emergency Crank Handle Register is to be maintained vide OM 20.06 note (d) by the Station Master on duty wherein the particulars of the usage of the Emergency Crank Handle must be recorded.

9.0 SUSPENSION OF LAST STOP SIGNALS:

When the Block Instrument is suspended with its handle in 'TOL' position for whatever reason, the concerned last stop signal controlled by the Block Instruments must be treated as suspended and trains shall be piloted 'OUT'.

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

10.1 Digital Axle Counters are provided on both UP and DN line Block Sections between BHC-BUDR and BUDR- KED.

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

- 10.3 If any Block proving Axle Counter section fails, the Last Stop Signal at the rear station cannot be taken 'OFF' and Block instrument at Advance Station cannot be turned to 'Line Closed' position after arrival of a train and in such case, resetting of last vehicle Checking Device is to be resorted to either Section.
- 10.5. No train should be allowed on signal to leave a station in any particular direction unless:- Track clear indication is available for the relevant Axle Counter track circuited portion and Last Stop Signal is taken OFF.
- 10.6. A resetting arrangement for the resumption of the track circuit by means of Axle counter under failure condition at either end Station of the Block section is provided, which should only be resorted to after the train that was lastly sent, arrives fully at the receiving station and is certified in this respect by the SM on duty at the receiving station through exchange of Private Number.
- 10.7. Reset arrangements are provided in the operation cum indication panel in the SM's office for sections BHC-BUDR and BUDR – KED with DLBI. The UP & DN resetting key along with reset push button for either sections are provided on the resetting Panel for resetting the axle counter in case of its failure. Every such operation of the resetting button and shall be recorded giving details of date of use, train number, time, number registered on the counter and reasons for resetting and initial each such entry.

10.8. **RESETTING OF DIGITAL AXLE COUNTER WHEN FAILED(FOR SECTION KED-BUDR AND BHC – BUDR.**

After complete arrival of train, if the axle counter of the section does not clear or Axle counter section free indication (G) does not appear in the panel, The receiving station SM shall apprise of the sending station SM through telephone for resetting giving details of last train that has arrived complete at his station and the block section is clear.

The receiving station shall inform the sending station as to whether the last train that entered into the section has arrived or not. And, if arrived fully shall so intimate authenticated by exchanging Private number with the sending station.

As digital Axle counters are provided as LVCD in Block section, resetting is to be done by both sending and receiving end individually. (No co-operation or permission is required from the other station).

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

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

- a. Insert SM's LV reset key, turn right
- b. Press LV reset button provided on the panel.
- c. Release SM's LV reset key and reset button.
- d. Turn left the SM's LV reset key and remove it.
- e. The system obtains preparatory reset state and preparatory reset indication (Green) glows on the panel.
- f. The counter reading increases by one count after a gap of 5 seconds approximately.
- g. The counter reading should be recorded.
- h. One train is to be piloted in the section to make the system normal.

The SM on duty shall record it in the Register the resetting operation giving details of train number, time, Private Number exchanged with SM of sending station giving reasons for the resetting operation.

If the axle counters functioning properly now, then Block Section cleared indication 'Green' will appear on the panel and the concerned Block working will be normalised.

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

11.0 **SIGNAL LIGHTS:**

The Station Master on duty at 00.00 hours (2nd night shift) must also ensure from panel board that all the signal lights are glowing properly and brightly. This fact must be recorded in the Diary under a separate entry and confirm to the Section Controller on duty.

12.0 **CORRECTING TIME IN STATION CLOCK:**

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

13.0 **TELECOMMUNICATIONS:**

- a) The Station is connected to KIS-BHC and JKPR-NYG Control Circuit.
- b) Telephone attached to SGE type Lock and Block Instruments for sections BUDR-BHC and KED-BUDR.
- c) Railway Auto telephone is provided at the station.
- d) Telephone communication is provided between Station Master on duty & H/A siding.
- e) Telephone communication is provided between Station Master on duty & siding.
- f) Telephone communication is provided between Station Master on duty to UP CH locations and to DN CH Locations.
- g) The station is connected to BHC-BRAG traction power control circuit.
- h) BSNL Phone is provided at this station.
- i) VHF set is provided at the station.
- j) Magneto Telephone has been provided between Station Master on duty and the FACOR power plant/SM.

NOTE

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

VISUAL DISPLAY UNIT (VDU)

NOTE:

The stand by system (VDU) has provided with the Conventional panel for the operation of Signals, Points, Crank Handles, Siding Controls and Resetting of all type of Axle counters.

1.0 SYSTEM OVERVIEW:

In addition to the panel, an operator console (VDU) consists of a Pentium-4 CPU with a high resolution 21" colour monitor, keyboard and pointing device (mouse) are provided. Both the serial ports (Com1 and Com2) in the CPU are connected to the Microlok II CPU board for exchange of control and indication messages. The Software is installed to display the Station Yard Mimic Panel diagram on the VDU and that it allows access to all functions through pop-up menus. When a particular function is selected, an appropriate Menu will appear on the screen by selecting a required operation clicking by the Left button of the pointing device (mouse) a function (Signal clear and cancellation, Route release, Point operation, etc.) can be executed.

The Computer (VDU) or panel any one may be used for controlling and monitoring the station, however indications on the Station yard mimic diagram of VDU and panel will be dynamically updated.

1.1 SELECTION OF CONTROL:

This VDU (Computer) is provided as a stand by of conventional panel for the operation of signals, points, crank handles, siding controls From the Mimic panel diagram. A Mimic panel diagram will be displayed on the VDU, which is an exact replica of operation cum indication panel and suits the yard plan as per SI No. 21051 ALT-D.

One two-position switch (Red colored) is provided on the conventional panel along with the SM's Key used for selection of Panel or VDU called PANEL/ PC Change over switch.

SM of the station can select any of the controls, for the selection of one control to another there are certain procedures to be followed for the control transfer. The procedure to be followed as mentioned below.

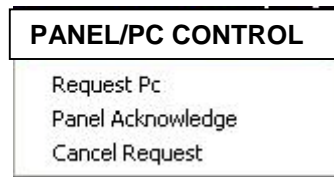
PANEL/ PC KEY and PC CONTROL KEY:

To prevent the unauthorized operation by other than on duty SM in VDU this facility is provided on VDU. On duty SM need to track the pointer to the "PC CONTROL KEY" icon and click the KEY OUT menu by the left button of the mouse, by this a Password window will appear. SM need to enter the password and press the OK Button provided on the Password window. This will lock all the controls in VDU except the Signal cancellation of All Cleared Signal routes. The PC CONTROL Key is nothing but a SM's KEY in the conventional panel.



PANEL TO VDU (PC-COMPUTER) CHANGE OVER:

1. Ensure that SM's Key is in ON position.
2. Ensure that PANEL/ PC Change over switch is in PANEL mode.
3. Click the PANEL/ PC key provided in the left top corner of the VDU. (A pop-up menu will appear)



4. Click the first Menu – PC REQUEST. (A password required window will appear in the centre of the screen).
5. Enter the proper USER NAME and PASSWORD in the required text boxes by selecting with mouse, after entering so click the OK button.
6. Now both the PANEL and PC indications will start Flashing.
7. Change the PANEL/ PC change over switch to PC mode in the conventional panel.
8. Now the PC indication will steady and Panel indication will disappear.
9. Click the PC CONTROL KEY and click the KEY IN menu. (A password required window will appear in the centre of the screen).



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

Now the Over all control is transferred to VDU, The entire operation can be possible from the VDU.

VDU (PC-COMPUTER) TO PANEL CHANGE OVER:

1. Turn the PANEL/ PC change over switch to PANEL mode.
2. Now both the PANEL and PC indications will start Flashing.
3. Click the PANEL/ PC key provided in the left top corner of the VDU. (A pop-up menu will appear)
4. Click the second Menu – PANEL ACKNOWLEDGE. (A password required window will appear in the centre of the screen).
5. Enter the proper USER NAME and PASSWORD in the required text boxes by selecting with mouse, after entering so click the OK button.
6. Now the PANEL indication will be steady and the PC indication will disappear.

Now the Over all control is transferred to PANEL, The entire operation can be possible from the PANEL.

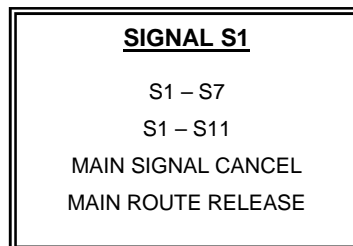
OPERATIONAL PROCEDURE:**VDU INDICATIONS:****MICROLOK II (EI) INDICATIONS:**

In Panel/ PC there are two system indication, Green indication mentioning the On-line system and the Red indication mentioning the sleep mode system.



SIGNAL OPERATION:

To Take 'OFF' a Signal with the desired route the SM needs to track the mouse pointer over the concerned Signal on the VDU, after clicking by the left button on the mouse a popup menu will appear as below:



(a) **SETTING A ROUTE:**

To set a route of a signal, click on a possible route of the signal, after done so the route initiated Red indication will appear on the replacement track of the signal. And all the relevant points Normal/ Reverse set indications will starts flashing if it is not available in the required position. After setting of point in the route required condition (Flashing indication will be steady) a complete yellow route set indication will appear from the Replacement Track of the signal to the last track of overlap of the route also the points will be locked (A Point locked can be ensured from the Red Steady indication will appear near the point). Finally a Route locked Yellow Steady indication will appear on the just bellow the signal. The signal will be taken 'OFF' now. The yellow route set indication will turn to red when the train occupies the track circuit.

CONDITIONS FOR SETTING A ROUTE:

The following condition to be ensured before setting the route by the SM.

1. All the Crank handles of the required route related points to be in Key in condition.
2. All the related Siding control keys to be in Key in condition.
3. All the related siding points should be in normal position (can be ensured from yellow steady indication at the siding point on the route)

(b) **CANCELING A ROUTE/ EMERGENCY ROUTE RELEASE:**

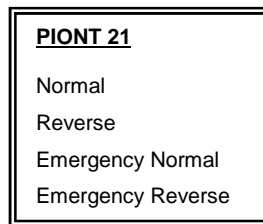
To cancel a signal route when the route is set and the signal in taken-off, click on the signal cancellation menu (Main/Calling-on) of the concerned signal, the signal will immediately go to 'ON' aspect, after doing so click on the Route release menu the route locked indication will starts flashing for 120 seconds, After the completion of 120 seconds the locked route will be released and veeder counter provided for the route release in the conventional panel will change to next higher digit which should be recorded by SM .

SHUNT SIGNAL OPERATION:

To setting and canceling the signal route for the shunt signal the same procedure shall be followed as explained in signal operation.

POINT OPERATION:

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

**(a) REVERSE TO NORMAL OPERATION:**

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

(b) NORMAL TO REVERSE OPERATION:

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

(c) EMERGENCY NORMAL OPERATION:

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

Before doing the emergency operation, an emergency point operation key to be 'KEY IN' by clicking the 'KEY IN' menu, after the completion of the Emergency point operation, the Key to be 'KEY OUT' by clicking 'KEY OUT' menu.

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

After the Emergency point operation a specific veeder counter provided in the Domino panel board will change to its next higher digit and this number should be recorded in the register provided for this purpose by the SM.

(d) EMERGENCY REVERSE OPERATION:

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

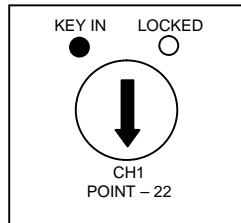
Before doing the emergency operation, an Emergency Point Operation Key to be 'KEY IN' by clicking the 'KEY IN' menu, after the completion of the Emergency point operation the Key to be 'KEY OUT' by clicking 'KEY OUT' menu.

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

After the Emergency point operation a specific veeder counter provided in the Domino panel board will change to its next higher digit and this number should be recorded in the register provided for this purpose by the SMs.

CRANK HANDLE & SIDING CONTROL OPERATION:

To Transmit or Release control of the Crank Handle, click on the crank handle/ Siding control button provided like the following button on the VDU.



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



For Transmitting the Crank Handle KEY to the field personnel SM has to click transmit control menu. After transmission the KEY IN indication will starts flashing, now the KEY can be extracted from the RKT. After extracting the key from the RKT, the key IN indication will disappear.

When the Manual point operation is over after putting the KEY in the RKT, A KEY IN flashing indication will appear on the panel. Now the SM has to Release the control for the Steady indication by clicking release control menu

A Crank handle locked indication will appear when the particular point has locked by any of the possible signal routes.

ANTI COLISION DIVICE (RAKSHA KAVACH)

=== NIL ===

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

1. STATION SUPERINTENDENT:

He is in-charge of the Station. He performs day shift duty for train passing duties in turn with his assistants. He is responsible for the efficient discharge of duties devolving upon all the staff employed at the station according to rules, safe working instructions issued from time to time and Station Working Rules. He shall see that all signals, points and whole machinery at the station are in proper working order. He shall report all defects to the concerned officials. He shall satisfy himself that the staff employed under him at this station are thoroughly conversant with Station Working Rules and perform their duties correctly. It is his personal responsibility to maintain the station working rules, other rule books and the Assurance Registers up to date. He shall see that all records of the station are properly maintained and due statements returns and other corresponding documents are up-to-date. He shall see that the staff are civil courteous and help full to all users of railway. He shall see that all station premises are kept neat and clean. He is responsible for booking off all Group-'C' and Group-'D' staff for PME and refresher course/safety camp in their due time.

His special attention is drawn to Chapter-II of GR and SR and GR 5.01 to 5.08 with relevant SRs, Chapter-XXII of operating Manual. He shall follow the instructions laid down in SR 3.68.01 (c) & (d) and SR 14.07.01 Para 2.09 (e) of Block Working Manual. He shall supervise the works of staff and conduct night inspections. Safety Meetings and Fire Drills and report lapses of staff working under him. He shall also ensure that the safety equipment in the station as mentioned in the station working rules are supplied in full and they are good working order with necessary relief stock.

The SS's special attention is drawn to the GR 5.01 to 5.23 where details are indicated.

1.1.1 ASSURANCE REGISTER:

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

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

The SS is personally responsible for maintaining the Assurance Register and for obtaining declaration from the staff working under him. The Assurance Register must be maintained in two parts one for Class-III staff and other for Class-IV staff. A duplicate copy of the Assurance Register must be maintained and kept in the personal custody by the SS In-charge.

The declaration is to be renewed in the following cases:

- (i) Whenever there is a change in the Station Working Rules,

- (ii) For any staff who have not worked at the station or were away from the station for a period of 15 days and over.

1.2 **USE OF PRIVATE NUMBER BOOKS AND IDENTIFICATION NUMBER SHEETS:**

Sufficient private number books and identification number sheets in sealed covers shall always be kept in stock by SS under lock and key by maintaining one register for this purpose.

1.3 **ACCIDENTS:**

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

- 1.4 The SS shall test the working of the reception signal and emergency crossovers daily during the day when there is no train due to arrive/ leave the station and record the results in the SM's diary.

2. **SM/ASM:**

He shall work train passing duties and booking of traffic, coaching returns and other statements shall be prepared and submitted by him in time. The SM/ASM on duty shall record in the diary the condition of all the running lines, siding and the caution orders in force at the time of handing over charge. These entries shall be countersigned by the Station Master coming on duty and taking over charge. The Station Master on duty who makes an entry in the train signal register shall continue till all the entries pertaining to the trains are completed vide SR 14.07.01. He shall promptly bring to the notice of SS all irregularities and accidents in course of his shift duties. During the absence of SS, the duty of SS will devolve on him. His special attention is drawn to Chapter-II of G & SR 2010 (Revised) and GR 5.01 to 5.08 with relevant SRs as an assistant to SS, given to him by the SS.

3. **TRAFFIC POINTSMAN:**

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

He shall remain responsible for:

- i). Correct setting and locking and crank handling of points for reception/dispatch and shunting operation.
- ii). Coupling and un-coupling of vehicles.
- iii). Protection of line in an emergency
- iv). Piloting and hand signaling of trains of trains when necessary and handing over caution orders/or any other line clear authorities to the Loco Pilot and guards of the trains.
- v). Attending off side to observe safe running of run through trains at stations and correct display of hand signals and ringing the station bell.
- vi). Securing of vehicles, as directed, protection of vehicles of a train.
- vii). Being conversant with the layout of the yard and compliance of rules relating to shunting operation.
- viii). Observing General Rules 5.13 to 5.21 and relevant Subsidiary Rules during shunting.

- ix). Cleaning and lighting of hand signal lamps if required cleaning and oiling of clamps and padlocks if required.
- x). Loading and un-loading of parcels and luggage's, packages goods and guards boxes to and from the trains and watching the packages and other materials by properly stocking in the station premises.
- xi). Cleaning and Dusting of SM's office room furniture and equipments Office.
- xii). Carrying messages call books etc where a separate call boy messengers are not posted.
- xiii). Working as fog signal man as and when required.
- xiv). Filling up the fire buckets with sand/water.
- xv). Getting train intact arrival register (T/1410) signed by the Guard as and when required.
- xvi). Any other duties entrusted to him by the SM on duty from time to time.

GENERAL

- 1) A set of flags and LED tri-color hand signal lamp will be part of the essential equipment of the staff while on duty. He shall not leave the station except when required by the SM on duty or with his permission and shall comply with Subsidiary Rules 4.42.02 (b) (i) and (d).
- 2) Staff working at the station must be able to distinguish UP and DN line clear tickets and educated in distinguishing other operational forms and documents, delivered to Loco Pilots and Guards and must also know how and when to ring the station bell.

A list of Essential Safety Equipment's which should be kept readily available in good working order with necessary relief stock.

Sl. No.	Description	Station
1.	Detonator Signals	20
2.	LED tri-color hand signal lamp	4
3.	Hand signal Flags	4 set (4 Red & 4 Green)
4.	Safety chain with Padlocks.	6
5.	Clamps with padlocks	12 (4 at station and 4 in each goomty)
6.	Skids	5
7.	Fire and Sand Buckets.	7
8.	Reminder Collar	8
9.	Motor Trolley on line label.	2
10.	Fire extinguisher	2 (DCPT).
11.	First Aid Box	1
12.	Stretcher	1
13.	Block Suspension Board	3
14.	Power Block Collar	3

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

RULES FOR WORKING OF DK STATIONS HALTS, IBH, IBS AND OUTLYING SIDINGS

- 1.1 **MID-SECTION OUTLAYING SIDING:**
There is no mid-section siding on either end of block section.
- 1.2. **IBH, IBS/DK STATION:**
There is no IBH or IBS or DK station on either end of block section.
- 1.3. **HALT STATION:**
Kapali Road (Code: KPLD) is situated between KED and BUDR station at Km. 304.5 from HWH.

(A.K.JENA)
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