

STATION WORKING RULES OF DHENKANAL STATION

BG Station.

Date of Issue: 10.06.13

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NOTE:

The Station Working Rules must be read in conjunction with General & Subsidiary Rules Block Working Manual & Operating 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/21058 based on CSTE/East Coast Railway and Signal Interlocking Plan No. SI/21058 ALT-D shows the complete lay out of the yard, siding, normal position of points, the Signaling and Interlocking arrangements, Gradients and Level Crossings within the station limits. This must be referred to for giving details of the point numbers and signals when reporting accidents.

2. **DESCRIPTION OF STATION:**

2.1. DHENKANAL is a 'B' class four lined station on Nergundi-Talcher branch line double line electrified (BG) section in KUR Division of East Coast Railway. It is situated at Km. 443.640 from Howrah. The station is provided with Standard-II(R) Interlocking and equipped with Central Panel and Multiple Aspect Colour Light signal signals. The station is worked under Absolute Block System in accordance with provisions of GR & SRs.

[Refer GR 1.02 (7), (31) & (32), 3.11, 3.42, 3.75 and 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, 14.08 (a), Chapter-VI of Block Working Manual and Chapter-XIV of GR & SR].

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

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

DHENKANAL (Code: DNKL) station is situated between Sadasibpur (Code: SSPR) at West end situated at a distance of 11.195 Km. and Joranda Road (Code: JRZ) at East end situated at a distance of 8.15 Km.

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

The section between SSPR-DNKL has been split into two Block Sections by providing Intermediate Block Signal (IBS) at Km. 450.752 and Km. 451.308 on UP and DN line respectively

2.2.iii **PASSENGER HALT:**

A]. Dandimal (Code: DNDL) is situated at Km. 450.9 from HWH between Dhenkanal and Sadasibpur.

B]. Shyamacharanpur (Code: SCPR) is situated at Km. 438.5 between Dhenkanal and Joranda Road.

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
DNKL-SSPR UP Direction	(a) UP Advanced Starter Signal of SSPR station.	(a) 400 m beyond UP IB Stop Signal No. 14 of SSPR.
	(b) From UP IB Stop Signal No.14 of SSPR.	(b) Outermost point No. 21A of DNKL.

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DNKL-SSPR DN Direction	(a) DN Advanced Starter Signal of DNKL station	(a) 400 m beyond DN IB Stop Signal No.16 of DNKL.
	(b) From DN IB Stop Signal No. 16 of DNKL.	(b) Outermost point No. 6 of SSPR station.
DNKL-JRZ UP Direction	UP Advanced Starter Signal of DNKL station.	Outermost point No. 22 of JRZ station.
DNKL-JRZ DN Direction	DN Advanced Starter Signal of JRZ station	DN BSLB of DNKL.

b. **STATION SECTION:**

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

c. **STATION LIMIT:**

UP LINE

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

DN LINE

From DN Distant Signal to DN Advanced Starter Signal No.14.

2.4 **GRADIENTS:**

a) **TOWARDS TLHR END: (UP AND DN LINES)**

From	To	Gradient
CSB	CH:989.08 m	1 in 1000 'F'
CH:989.08 m	Towards Block Section	1 in 500 'F'

b) **TOWARDS NRG END: (UP AND DN LINES)**

From	To	Gradient
CSB	CH: 565.4 m	1 in 1000 'R'
CH: 565.4 m	CH: 620.88 m	1 in 1000 'R'
CH: 620.88 m	Towards Block Section	1 in 200 'R'

2.5 **LAYOUT:**

The station is provided with four running lines in the Main yard (namely Common Loop, DN Main, UP Main, UP Loop), and two non running line i.e. goods siding and Engg. siding.

a. **ENGG SIDING:**

The Engg. siding at NRG end of the yard with both side entry is taking off from UP Loop (Line No.4). The entrance point and corresponding derailing switch are coupled and operated by an arc lever at site. Both the entrance points are fitted with hand plunger locks. These hand plunger locks are unlocked by the siding keys "D1" & "D2" released by pressing the button No.28 provided on panel at SM's office. Reception signals (i.e. 1A, C1A. in UP direction) and shunt signal Nos. SH4D are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the siding key "D1" & "D2" is taken 'OUT' from the RKT provided in the Engg. siding location at site.

b. **GOODS SIDING:**

The Goods siding at NRG end of the yard with single entry is taking off from Common Loop (Line No.1). The entrance point is coupled and operated by an arc lever at site. The entrance point is fitted with hand plunger lock. This hand plunger

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locks is unlocked by the siding keys "B1" released by pressing the button No. 26 provided on panel at SM's office. Reception signals (i.e. 2A. C2A. in DN direction and 1C. C1C. in UP direction) and shunt signal Nos. SH4A and SH3B are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the siding key "B1" is taken 'OUT' from the RKT provided in the Goods siding location at site

PLAT FORMS:

- 1) Line No. 1 (Common Loop) : R.L.P.F.
- 2) Line No. 4 (UP Loop) : R.L.P.F.

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

DIRECTION OF TRAFFIC:

The trains coming from SSPR end are UP trains and the trains coming from JRZ end are DN trains.

2.5.2 HOLDING CAPACITIES:

Line No.1	Common Loop	732.0	Meters	(Electrified).	From Starter to Starter
Line No.2	DN Main	757.0	Meters	(Electrified).	From starter to SB
Line No.3	UP Main	765.0	Meters	(Electrified).	From starter to SB
Line No.4	UP Loop	736.0	Meters	(Electrified).	From starter to SB

2.5.3 NON RUNNING LINES AND THEIR CAPACITIES IN CSR:

Goods Siding	686	Meters	(Electrified).	From AC to DE
Engg. Siding	72.0	Meters	(Electrified).	From AC to AC

2.5.3.a. ANY SPECIAL FEATURES IN THE LAYOUT:

NIL

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 over run line/sand hump must not be used for stabling of vehicle or harboring an engine with or without vehicle.
- iv) No UP train shall be dispatched from common loop when line clear for a DN train has been given unless the said DN train comes to a stop at the first stop signal or has been received at the station clearing the fouling mark.

OR

If starter signal has been taken 'OFF' for an UP train from common loop, line clear for a DN train shall not be given unless the said UP train with its last vehicle indicator has cleared the cross over points between UP & DN lines.

c. SPECIAL INSTRUCTIONS:

- i. UP & DN Mainlines are track circuited whereas siding portion UP Loop & Common Loop are Axle countered. In case of failure of track circuit/Axle Counter the clearance of the concerned line should be ensured physically before a train is piloted.
- ii. Whenever a non signal movement has taken place over a point operated by motor whether facing or trailing direction the SM on duty shall operate the points to normal and reverse setting for the purpose of setting the point. After clamping & padlocking and the indication is correctly available, further movement may be permitted over the points.
- iii. Movement of non-insulated push trolley is prohibited between DNKL-SSPR and DNKL-JRZ sections vide SR 15.25.04 (c).
- iv. In case of failure of Digital Axle Counters provided for monitoring Block Section at both end, the resetting should only be initiated for normalising the Block Instrument after ensuring complete arrival of the train by physical verification of Last Vehicle by SM on duty.

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2.6 LEVEL CROSSINGS:

- (i) There is a 'Special' Class mid-section manned interlocked level crossing gate No. CT-38 situated at Km. 438/13-11 (UP) & 438/12-14 (DN) between JRZ & DNKL stations. Telephone communication is provided between the Gateman and the Cabin Master on duty at West cabin of JRZ station.
- (ii) There is a 'Special' Class mid-section manned interlocked level crossing gate No. CT-39 situated at Km. 442/11-9 (UP) & 442/10-12 (DN) between JRZ & DNKL stations. Telephone communication is provided between the Gateman and the SM/DNKL on duty.
- (iii) There is a 'C' class manned mid-section non-interlocked level crossing gate No. CT-40 situated at Km. 445/27-25 (UP) & 445/26-28 (DN) between DNKL-SSPR. Telephone communication is provided between the gate lodge and the SM's office of DNKL.
- (iv) There is a 'Special' class manned mid-section interlocked level crossing gate No. CT-41 gate situated at Km. 447/17-15 (UP) & 447/16-18 (DN) between DNKL-SSPR. Telephone communication is provided between the Gate lodge and the SM's office of DNKL.
- (v) There is a 'C' class non-interlocked level crossing gate No. CT-43 situated at km 450/19-17 (UP) & 450/16-18 (DN) between DNKL-SSPR. Telephone Communication provided between the gate lodge and SM's office of SSPR.
- (vi) There is a 'C' class non-interlocked level crossing gate No. CT-44 situated at km 451/23-21 (UP) & 451/20-22 (DN) between DNKL-SSPR. Telephone Communication provided between the gate lodge and SM's office of SSPR.
- (vii) There is a 'C' class non-interlocked level crossing gate No. CT-45 situated at km 454/3-1 (UP) & 454/2-4 (DN) between DNKL-SSPR. Telephone Communication provided between the gate lodge and SM's office of SSPR.

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 SSPR-DNKL & DNKL-JRZ 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. Line clear is granted/obtained through the block phone attached with the Block Instrument. [Refer Chapter XIV of GR & SRs, Chapter-VI of Block Working Manual and GR 14.08 (a)]. The section between SSPR-DNKL has been split into two Block Sections by providing Intermediate Block Signal (IBS) at Km. 450.752 and Km. 451.308 on UP and DN line respectively. Telephonic communication is provided between DN IBS post & SM/DNKL to establish contact in case of emergency.

4. SYSTEM OF SIGNALLING AND INTERLOCKING:

- 4.1 This Station is provided with Standard-II(R) interlocking with Multiple Aspect Colour Light Signaling 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 interlocking and having no end cabins. All signals and points are electrical operated from the central panel provided at SM's Office. 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 are provided in the Station Master's office to electrically control all signals, points, siding key, Gate 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). CRANK HANDLE:

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When any point fails to operate normally by the route setting operation through panel it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles 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	-----	20
CH-2	-----	21
CH-3	-----	22, 23
CH-4	-----	24, 25

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 in Normal Position and the route is not locked for whatever reasons. Crank Handle can be released by obtaining 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. 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 the motor point 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. 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.

NOTE:

No train can pass through while receiving on Calling-on signal.

(c) **SHUNT SIGNALS**

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Back shunt signals 3A/B and 4A/B/C/D are provided at TLHR and NRG end respectively for shunting purpose.

[d] **EMERGENCY CROSS OVER**

Emergency cross over is provided at each end of the yard.

[e] **L.C. GATE OPERATION**

Details described in Appendix-'A'.

[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 Yellow light will flash indicating that the timer is working. After 120 seconds, the Yellow 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 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:**

Both UP and DN main Lines are track circuited where as partly berthing portion of UP Loop and Common Loop are monitored by axle counters.

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 are provided. From last trailing point/fouling mark in either side of

Yard to Advanced Starter Signals are also track circuited (i.e. 13AT1, 13AT2 and 14AT in Up and Down directions respectively). Indications for the above track circuits/Axle Counters are available on panel at SM's office. "Yellow" light on panel indicates track clear and Red light indicates track occupied condition.

[j] **AXLE COUNTER:**

- (i) Electronic Analog Axle Counters are provided on UP Loop & Common loop berthing portions in the yard for counting Axles 'IN' and counting axles 'OUT' which indicate whether the concerned berthing track/point zone track monitored by analog axle counters is clear or occupied.
- (ii) The entire Block Section on both UP and DN Lines between the stations SSPR-DNKL & DNKL-JRZ are monitored by Digital Axle counter system. These Digital Axle Counters are provided for Last Vehicle check on either Block Sections as well as for dispatching a train in block section from either end of the section.
- (iii) These Digital Axle counter system counts the Axles 'IN' and counting axles 'OUT' in the respective block sections which indicate whether the concerned sections monitored by digital axle counters is clear or occupied.
- (iv) Fiberglass trolley wheels are to be provided for push trolleys in lieu of trolley suppression track circuits.
- (v) **IB SECTION SSPR- DNKL UP LINE:** A pair of Digital axle counter is provided on UP line to monitor the IB section from Advanced Starter Signal No. 15 of SSPR to 400 m beyond the Up IB Home signal No. 14 of SSPR.
- (vi) **IB SECTION DNKL-SSPR DN LINE:** A pair of Digital axle counter is provided on DN line to monitor the IB section from Advanced Starter Signal of DNKL to 400m beyond DN IB Home signal No. 16 of DNKL.
- (vi) A pair of digital axle counter is provided between SSPR-DNKL on UP line one just beyond UP IB Home signal No. 14 of SSPR in 14T track circuit and another just beyond UP Home signal of DNKL to monitor LV section.
- (vii) A pair of digital axle counter is provided between DNKL-SSPR on DN line one just beyond DN IB Home signal No. 16 of DNKL on 16T track circuit and another on track 2T2 just beyond DN Home signal of SSPR to monitor LV section.
- (viii) A pair of electronic axle counter is provided between DNKL-JRZ on UP line one just beyond UP Advanced Starter DNKL and another 180 m beyond UP Home Signal of JRZ.
- (ix) Similarly a pair of electronic axle counter is provided between JRZ-DNKL on DN line one just beyond DN Advanced Starter of JRZ and another on track circuit No. 2T2 i.e. beyond DN Home signal of DNKL.

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 Train has arrived complete with its Last Vehicle at the receiving station, by exchanging Private Number then resetting to be complied with.

(Details of resetting procedure given in Appendix-'B')

- (v) In case of failure of Axle Counter the re-setting of axle counter must be done as per the procedure given in Appendix-"B". In the event of failure of Axle Counter/ Track circuit the clearance of loop lines 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 indication/Axle counter indication. The indication of track Axle counter will exhibit Red Light when track is occupied and white light when track is clear with route is set and signal cleared.

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 relay room key register. The maintainer on receipt of key from SM may use the same and key in his custody to open the relay room by inserting key one after another separately into earmarked locks. After completion of the work, the 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 transaction are to be properly recorded in 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

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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 RJGR-TLHR-ANGL Control Circuit.
- b) Telephone attached to SGE type Lock and Block Instruments for sections SSPR-DNKL and DNKL-JRZ.
- c) VHF set is provided at the station.
- d) Railway Auto telephone is provided at SM's office.
- e) BSNL land phone is provided at the station
- f) Telephone communication is provided between Station Master on duty and both end Crank Handle Locations.
- g) Telephone communication is provided between Station Master on duty and both goods siding & Engg. siding Locations.
- h) Telephone attached to L.C. Gates at Km. 442/11-9 (UP) & 442/10-12 (DN), at Km. 445/27-25 (UP) & 445/26-28 (DN) and at Km. 447/17-15 (UP) & 447/16-18 (DN).
- i) Telephone is provided between DN IBS at Km. 451.308 and SM/DNKL.

NOTE

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

6. **SYSTEM OF TRAIN WORKING:**

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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, Operating 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.

SS (In-Charge)	1 (One)	Supervisory
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 and in Gate lodge for traffic gate man (Details of duties are given in Appendix-'D').

6.1.2 **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.

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

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

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

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

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.

6.1.4 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 (IN-CHARGE), under lock and key by maintaining one register for this purpose.

6.2 CONDITIONS FOR GRANTING LINE CLEAR:

Before granting a line clear to a train, the SM 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 up to point No. 21A on UP Line for UP Trains and up to BSLB on DN Line for DN trains.

NOTE:

- 1) If the light of the reception signal is found not burning, line clear shall not be granted for train till such time it is ensured that the concerned Loco Pilot is notified of the fact in writing by the Station Master of the station to which such line clear is to be granted.
- 2) Before granting line clear to an UP train, the SM on duty shall ensure the closure of the L.C. Gate at Km. 445/25-27 (UP) & 445/26-28 (DN) from the gateman on duty under exchange of Private Number.

6.2.1 ANY SPECIAL CONDITIONS TO BE OBSERVED WHILE RECEIVING OR DESPATCHING A TRAIN:**6.2.1.1 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].

6.2.1.2 RECEPTION OF A TRAIN ON BLOCKED LINE:

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

Before handing over the authority the SM on duty shall ensure the correct setting, clamping and padlocking of both facing and trailing end of the concerned route vide SR 3.69.03.

A stop hand signal shall be exhibited by the SM on duty at a distance of not less than 45mts. from the point of obstruction to indicate to the Loco Pilot as to where the train shall be brought to a stand.

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALED 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 points and trailing points clamped and padlocked and

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

- d. The Loco Pilot is authorized to pass the approach stop signals at 'ON' through a written authority (T/369 (3b)). [Refer GR 5.10].

6.2.1.4 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. Before handing over the written permission or T/369(3b) the SM shall depute his points man at the foot of the concerned point. The TPM on duty shall clamp and padlock the same after setting the point in the desired direction under the supervision of SM on duty then after handing over the authority he shall show the proceed hand signal to the Loco Pilot. [Refer SR 5.11.1].

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

NIL

- 6.2.1.6 .a. For receiving UP & DN trains on common loop, the clearance of the sand hump should be ensured.
- b. All running lines are track circuited. Partly berthing portion of UP loop & Common loop are axle countered. In case of failure of track circuits, the clearance of the nominated line has to be ensured physically before piloting 'IN' a train.

6.3 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, 3.47.01, 4.17.02, and Block Working Manual].

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

If in an emergency, a signal which was taken 'OFF' for reception of a train, has to be put back to 'ON', when the train is approaching, the route over which the train would pass shall not be altered until the train has come to a stand except to avert an accident. If departure signal which was taken 'OFF' for a train, has to be put back to 'ON' the route over which the train would pass may be alter or any other movements may be allowed after electrical time release of the concerned signal route. [Refer SR 3.36.02 (a) & (b)].

6.4 SIMULTANEOUS RECEPTION/DESPACTH OF TRAINS:

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

1.	While Receiving of an UP train on line No. 4 (UP loop)	Receiving of a DN train on line No. 1 or 2 OR dispatching an UP train from the line No. 3 or 1.
2.	While Receiving of an UP train on line No. 3 (UP Main)	Receiving of a DN train on line No. 1 or 2.
3.	While Receiving of an UP train on line No. 1 (Common loop)	Dispatching an UP train from the line No. 3 or 4.
4.	While Receiving of a DN train on line No. 1 (Common loop)	Receiving of an UP train on line No. 3 or 4 OR Dispatching of a DN train from the line No. 2.
5.	While Receiving of a DN train on line No. 2 (DN Main)	Receiving of an UP train on line No. 3 or 4.

ADEQUATE DISTANCE (Signal overlap) :

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

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

CLEARANCE OF ADEQUATE DISTANCE

FOR UP TRAINS		
Line Number	From	To
1. Common Loop	UP Loop Starter Signal No.9	Up to the end of the sand hump.
3. UP Main	UP Main Line Starter Signal No.11	Up to the UP Advanced starter Signal no.13
4. UP Loop	UP Loop Starter Signal No.7	Up to UP Advanced Starter Signal No.13 OR up to the end of the over run line.
FOR DN TRAINS		
1. Common Loop	Common Loop Starter Signal No.6	Up to DN Advanced Starter Signal No.14 OR up to the end of the sand hump.
2. DN Main	DN main line Starter Signal No.12	Up to DN Advanced Starter Signal No.14.

6.4.1A RECEPTION OF TRAINS:

Before admitting a train on any line, it must be ensured that the correct route set indication for the respective line shows 'Yellow' indication in the illuminated panel diagram. To receive a train for which line clear is given, the Station Master on duty shall nominate a clear line in consultation with the Section Controller on duty. He shall personally satisfy himself that the nominated line is clear and free from all obstructions by seeing the panel indication or by physical verification of the nominated route in case of failure of track circuit.

He shall suspend all non-isolated shunting and thereafter set the points of the nominated route by means of push button switch provided on the control panel. He shall then verify from the visual indication available in the panel that points are set to the desired route. The interlocked L.C. Gate is to be closed and the key is to be transmitted to panel through EKT.

Unless the panel indication for the concerned line is 'Clear' is available even with other conditions satisfied, the operation of panel control button by the Station Master on duty will not permit the concerned Home signal to be taken "OFF". However, reception of trains will be possible in such case with "Calling-on signal" provided below Home signal. Unless the first track circuit in advance of home signal does not show Red indication, Calling-on signal of the concerned route cannot be taken off.

The Station Master on duty shall then operate the concerned push button on control panel for taking "OFF" the reception signal. He shall then verify on the panel that the correct reception signal is taken "OFF"

B RECEPTION OF TRAINS IN GOODS SIDING:

- (a) **FROM JRZ END:** To receive a train in Goods siding from JRZ end, the train will be received on Line No. 1 on signal. After standing on Line No. 1, the train will be drawn ahead & stand clearing the hand point at CH: 143.17 mtrs. Then, the SM on duty at Panel shall press button No. 26 meant for goods siding as well as common trans button. The TPM on duty at site shall release the siding key 'B1' meant for goods siding from the location box provided at site for unlocking the hand plunger lock.

Thereafter, the concerned points meant for goods siding will be correctly set, clamped & padlocked by the TPM on duty. The guard of the train shall ensure the correct setting, clamping & Padlocking of the concerned points meant for goods

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

siding. After clamping & padlocking the concerned points meant for goods siding the TPM on duty shall exhibit proceed hand signal near the hand operated point. The guard of the train shall display proceed hand signal to the Loco Pilot of the train. Observing the 'proceed' hand signal of Guard, Loco Pilot of the train will proceed into the goods siding.

- (b) **FROM SSPR END:** To receive a train in Goods siding from SSPR end, the train will be received on Line No. 1 on signal. After standing on Line No.1, Power of the train will be reversed and attached at SSPR end. Thereafter, the train will be drawn ahead & stand clearing the hand point at CH: 143.17 mtrs. Then, the SM on duty at Panel shall press button No. 26 meant for goods siding & common trans button. The TPM on duty at site shall release the siding key 'B1' meant for goods siding for unlocking the hand plunger lock. Thereafter, the concerned points meant for goods siding will be correctly set, clamped & padlocked by the TPM on duty. After clamping & padlocking the concerned points meant for goods siding the TPM on duty shall show proceed hand signal near the hand operated point observing the proceed hand signal of TPM on duty the Loco Pilot of the train shall proceed towards the goods siding in pushing.

6.5 **COMPLETE ARRIVAL OF TRAINS:**

The entire block section between DNKL-SSPR and DNKL-JRZ 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's 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.

In case of failure of Axle Counter at either end of the block section, 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 that the train arrived complete.

If a train passes the station without confirming the Last Vehicle Indicator, then the SM on duty shall advise the Station in advance to stop the train to see the complete arrival of the train under exchange of private number and he need not withhold closing of Block section vide GR 4.17 (3). After obtaining confirmation about the complete arrival of the said train under exchange of private number he may send another train into the concerned block section.

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:**

(i) **DESPATCH OF TRAINS ON UP LINE BETWEEN DNKL-JRZ:**

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 the Station Master will ensure that the Level Crossing Gate is closed against road traffic and then shall take "OFF" the concerned route starter and

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

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]

ii **DESPATCH OF TRAINS ON DN LINE BETWEEN DNKL- SSPR:**

The DN Advanced Starter Signal No. 14 of DNKL shall be taken "OFF" only when the "Axle counter clear" indication between DN Advanced Starter signal no.14 and the IBH signal No. 16 of DNKL is available on the Panel. A train may be allowed to proceed on DN line up to the IB Signal No. 16, even when line clear has not been received from SSPR. The DN IB Signal No. 16 shall be taken "OFF" only when "line clear" has been received on the Block Instrument from SSPR station.

The Station Master on duty shall watch the safe passage of train with its Last Vehicle Indicator. After the train passes the DN IB Signal complete DN train entering section buzzer starts ringing, then he shall send the train entering block section signal to the station, SSPR. 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].

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 any thing 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. [Refer GR 3.42, 4.17, 4.42 & 4.42.2]

He shall also depute his point man on duty to the other side for passing the train. The TPM on duty shall be responsible to observer/watch condition of the passing train and shall wave GREEN hand signal horizontally until any thing wrong is noticed on the train. If he notices anything which is unsafe for the passing train then he shall at once show danger hand signal and report 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 4.17 & SR 4.17.02]

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

a. **TRACK CIRCUIT:**

In the event of failure of track circuit in the yard i.e. UP/DN Main line, train shall be admitted into the yard after piloting 'IN' before piloting a train in to the yard the clearance of the track must be ensured by physical verification.

In the event of failure of track circuits in the advance of Advanced Starter and in the rear of Home signals then lock and Block working will be remained suspended with the concerned adjacent stations till its rectification and trains shall be piloted IN/OUT as case the may be.

b. **AXLE COUNTER:**

In the event of failure of axle counter of UP Loop, Common Loop action will be initiated for resetting as elaborated in Appendix-'B'. If the failed zone or line could not be reset then trains shall be admitted in to the yard by piloting 'IN' after physical verification of the concerned line.

In the event of failure of axle counter of concerned block section initiation will be taken for resetting after ensuring the complete arrival of the train by either end SM. After resetting the first train will be piloted 'OUT' to the concerned Block section for normalizing the system of working. Details of operations involved in resetting of axle counter are given in Appendix-'B'.

c. **BLOCK INSTRUMENT(S):**

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 6.02.6].

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:**

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

Before handing over the authority the SM on duty shall ensure the correct setting, clamping and padlocking of both facing and trailing end of the concerned route vide SR 3.69.03.

A stop hand signal shall be exhibited by the SM on duty at a distance of not less than 45mts. from the point of obstruction to indicate to the Loco Pilot as to where the train shall be brought to a stand.

e. **RECEPTION OF A TRAIN ON NON-SIGNALED LINE:**

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

- i) The train is brought to a stand at the first stop signal.
- ii) 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.
- iii) All points over which the train has to pass are correctly set & both the facing and trailing end of the points are clamped and padlocked and
- iv) The Loco Pilot is authorized to pass the approach stop signals at 'ON' through a written authority (T/369 (3b)). [Refer GR 5.10].

f. **DEFECTIVE SIGNALS:**

When signals become defective, the procedure laid down in GR & SR shall be followed. A signal in the OFF position is the final indication that the points are correctly set for the route for which it applies and if it is found impossible to take OFF a signal, the setting of points on the route to which it applies shall be inspected by the Station Master on duty before the signal is declared as defective irrespective of what is indicated by the position of the route. [Refer GR 3.68 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. In the event of signal showing no lights, Station Master on duty shall before giving line clear initiate action

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

- 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 thereto. [Refer GR 3.49 (4) and 3.68, 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)].

- i. **DEFECTIVE/DAMAGED POINTS:**
 When any point fails to operate normally by the route setting operation through panel it is inevitable to operate the points with crank handle. The SM on duty shall personally ensure clamping and padlocking of all facing and trailing points on the route. Crank handles 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.

<u>CRANK HANDLE</u>	<u>CONTROL POINTS</u>
CH-1	20
CH-2	21
CH-3	22, 23
CH-4	24, 25

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 in Normal Position and the route is not locked for whatever reasons. Crank Handle can be released by obtaining 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. 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 use of Crank Handle is given in Appendix-'B').

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

6.9 **PROVISIONS FOR WORKING OF TROLLIES/ MOTOR TROLLIES/MATERIALS LORRIES ETC**:"

Motor trolleys are 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, 6.13 of BWM]

7.0 **BLOCKING OF THE LINES:**

Whenever a running line is blocked either by loose vehicles or by stabling train or give precedence to another train, the points at either end should immediately be set against the blocked line except during shunting movement and the concerned berthing route button (UN OR UN1) and group "TRANS" button is to be pressed to inactivate the concerned route button. A RED flashing indication appears near the route button on panel. To activate the route button concerned route button along with the Group 'RELEASE' button is to be pressed. After route button is activated the flashing indication will disappear. And also reminders 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 SR 3.36.3 (b), GR 5.23 and SR 5.23.01]

7.1. **LOADING AND UNLOADING OF VEHICLES ON RUNNING LINES:**

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

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. [Refer GR 5.23 & SR 5.23.01]

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. [Refer SR 3.36.03 (b)]

ALTERATION OF A POINT 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 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 in case, of collision, receive the impact.

8. **SHUNTING:**

(A.K.JENA)
DSTE/KUR

(B.PANDA)
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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, 5.17, 5.19, 5.20 to 5.23 and 8.06 to 8.15]

The SM/Guard/Traffic Points man on duty is authorized to supervise shunting operation. Normally back shunt signals 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 Guard/SM on duty for supervising shunting operation.

8.1(i) SHUNTING IN THE FACE OF AN APPROACHING TRAIN:

Shunting in the face of an approaching train is prohibited.

- (ii) No shunting beyond the outermost point should be allowed unless a locomotive is attached at the lower end of the load from the point of view of gradient.

8.2 SHUNTING OUTSIDE HOME SIGNAL:

- (i) When line clear has been given no shunting shall be permitted in the Block section in rear.
- (ii) 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.
- (iii) 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).

SHUNTING OUTSIDE THE STATION SECTION:

Shunting outside station section may be permitted provided the section is blocked back/blocked forward.

8.3 PROHIBITION OF SHUNTING SPECIAL FEATURE IF ANY:

Hand/fly shunting is prohibited.

8.4. SHUNTING IN THE SIDING:

GOODS SIDING:

The Goods siding at NRG end of the yard with both side entry is taking off from Common Loop (Line No. 1). The entrance points are coupled and operated by an arc lever at site. Both the entrance points are fitted with hand plunger locks. These hand plunger locks are unlocked by the siding keys "B1" & "B2" released by pressing the button No. 26 provided on panel at SM's office. Reception signals (i.e. 2A, C2A in DN direction and 1C, C1C in UP direction) and shunt signal Nos. SH4A and SH3B are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the siding key "B1" & "B2" is taken 'OUT' from the RKT provided in the Goods siding location at site

ENGG SIDING:

The Engg. siding at NRG end of the yard with both side entry is taking off from Up Loop (Line No.4). The entrance point and corresponding derailing switch are coupled and operated by an arc lever at site. Both the entrance points are fitted with hand plunger locks. These hand plunger locks are unlocked by the siding keys "D1" & "D2"

released by pressing the button No. 28 provided on panel at SM's office. Reception signals (i.e. 1A, C1A in UP direction) and shunt signal Nos. SH4D are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the siding key "D1" & "D2" is taken 'OUT' from the RKT provided in the Engg. siding location at site

9.0 **ABNORMAL CONDITION:**

1. **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.

- 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 station telephone exchanged 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 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.
- (a) 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.
 - (b) 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.
- (c) 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**

In the event of failure of axle counter of UP Loop & Common Loop action will be initiated for resetting as elaborated in Appendix-'B'. If the failed line could be reset then trains shall be admitted in to the yard by piloting 'IN' after physical verification of the concerned line.

In the event of failure of axle counter of concerned block section initiation will be taken for resetting after ensuring the complete arrival of the train by either end Station master. After resetting the first train will be piloted 'OUT' to the concerned Block section for normalizing the system of working. Details of operations involved in resetting of axle counter are given in Appendix-'B'.

9.1 **TOTAL FAILURE OF COMMUNICATION:
DOUBLE LINE SECTION:**

In the event of total failure of communications between SSPR-DNKL and DNKL-JRZ i.e. when line clear can not 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. Station to station fixed telephones wherever available.
- D. Fixed telephones such as Railway auto phones & BSNL phones.
- E. Control telephone.
- F. 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 on duty will hand over an authority for working of trains during total failure of communication on Double line section (T/C 602) which includes:
 - a) An authority to proceed without 'Line Clear'.
 - b) An authority to pass the Last Stop Signal at its "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 and reception signals may be taken 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].

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 SSPR-DNKL and DNKL-JRZ, trains shall be worked as per the procedure as detailed below. [Refer SR 6.02.01]

- a) 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.
- b) The Lock and Block instrument will be suspended.
- c) 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, last train arrived/left the station 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.
- d) SM of the other end block section will acknowledge the message and confirm the same by a Private Number.
- e) After obtaining line clear for the train from the Advance station, the Loco Pilot must be given an authority (T/D 602) for temporary single line working on double line indicating there in.
 - (i) The line on which single line is introduced.
 - (ii) The kilo-meterage of obstruction.
 - (iii) Any other speed restriction, if anything existing.
 - (iv) The concerned points of the nominated route are correctly set, clamped & padlocked.
 - (v) 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).
- f) An endorsement will also be made in the Caution Order given to the Loco Pilot of the 1st train to inform all the gateman and gang men on the way about introduction of temporary single line working and specifying the road on which the train will run. This information shall be conveyed through the Loco Pilot of a subsequent train also, if necessary.
- g) The speed of the first train is to be restricted to 25 KMPH subject to other speed restriction.

On being ensured that the obstructed line is clear of all obstructions, SS/SM will resume normal working after exchanging message with the SS/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]

- (a) 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.
- (b) SM at the dispatching end will hand over to the Loco Pilot the BLOCK TICKET as the authority which includes.
 - i). An authority to pass the signals at 'ON' position.
 - ii). **CAUTION ORDER:** existing speed restrictions shall be indicated in the Caution order. The speed restriction of 15 KMPH in day when view ahead is clear and 10 KMPH in night, when view ahead is not clear shall be indicated clearly.
- (c) Before resumption of normal working a message between the SM's of the concerned section 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. 6 & 9 on either direction during day & night are the visibility test objects of UP and DN lines 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 SIGNALING:

In case of thick, foggy or tempestuous weather impairing visibility, whenever it is necessary to indicate to the Loco Pilot of an approaching train the locality of a signal, the SM on duty at station shall arrange for signaling in terms of GR 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 Signalman, 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.

APPENDICES

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

1.0 **WORKING OF 'SPL' CLASS LEVEL CROSSING GATE NO. CT-39 SITUATED AT KM. 442/11-9 (UP) & 442/10-12 (DN) BETWEEN DNKL-JRZ.**

1.1 **BRIEF DESCRIPTION:**

1.	No. of Level Crossing Gate	:	CT-39
2.	Engineering or Traffic gate	:	Engineering.
3.	Under control of station master or permanent way inspector.	:	SSE/P-WAY/DNKL
4.	Location at Km.	:	442/11-9 (UP) & 442/10-12 DN)
5.	At station	:	---
6.	In between station	:	DNKL - JRZ
7.	BG/MG/NG	:	BG
8.	Single line/double line/multiple line	:	Double line
9.	Normal position	:	Open
10.	Interlocked/ Non-Interlocked	:	Interlocked
11.	Means of Interlocking	:	Gate sig. & Adv. Str.
12.	Provision of gate single at Km.	:	Nil
13.	Signaling arrangement	:	DN Gate Stop Signl, Up Adv. Str. DNKL
14.	Means of communication Telephone.	:	Telephone with SM/DNKL
15.	Width of the level crossing gate	:	7.00 Mtrs
16.	Type of road	:	Others
17.	Name of road	:	Dhenkanal-Barapada Road
18.	Metalled /Non-Metalled	:	Metalled
19.	Approach road	:	Black top
20.	Width of the road	:	5.10 Mtrs
21.	Angle of road crossing (in case of the SKEW gates)	:	—
22.	Road gradients (if any)	:	[a] North /East Side.1:40 [b] South/ West Side.1:40
23.	Road alignment (straight/Curve)	:	[a] North /East Side. Straight [b] South /West Side. Straight
24.	Provision of height gauges	:	Provided
25.	Type of barriers	:	Lifting barriers
26.	Length of check rails	:	12.80 Mtrs.
27.	Road surface in between level crossing gates.	:	C. C. Block
28.	Length of rumble strip/ speed breakers.	:	5.10 mtrs.
29.	Road signs	:	Yes
30.	Speed breakers indication board	:	Yes
31.	TVU	:	203184, December - 2012
32.	Census next due on	:	December - 2015
33.	Demarcation for placement of detonators.	:	Available
34.	No. of gateman working	:	Three
35.	Nearest Railway Medical Assistance	:	TLHR
36.	Nearest Private Medical Assistance available (if any)	:	DNKL
37.	List of equipment available (Yes/No)	:	Yes

1.2.A. EQUIPEMENT TO BE AVAILABLE AT THE GATE :

1.	Hand Signal Lamp Tri Colour	3
2.	Hand Signal Flag Green	1 mounted on stick
3.	Hand Signal Flag Red	3 mounted on sticks
4.	Banner Flag Red	3
5.	Posts for exhibiting red banner flag	2
6.	Spare Chains with Padlocks	2 with stop mark
7.	Detonators	10 in tin case
8.	Gate lamps	2
9.	Tommy Bar	1
10.	Mortar Pan	1
11.	Spade/ Fowrah	1
12.	Rammer	1
13.	Pick Axe	1
14.	Tin Case for Flags	1
15.	Cane for oil	1
16.	Water pot/Bucket	1
17.	Canister for Muster roll	1
18.	Set of spare spectacles of gateman wearing glasses	1
19.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1
20.	Basket	1
21.	Whistle	1
22.	Wall clock	1
23.	Small size chain with padlock	2

B. RECORDS TO BE KEPT AT GATE LODGE

In addition to the above equipment, following records shall also be kept at the Gate Loge.

- i) Gate Working Instructions in Hindi/English.
- ii) Gate Working, Instructions in local vernacular language.
- iii) Gateman Rule Book in local vernacular language.
- iv) List for tools and books.
- v) Duty Roster.
- vi) Certificate for working as gateman.
- vii) Bio-data particulars of Gatemen, including date of passing vision test, initial/refresher course, safety camp, etc.
- viii) Accident Register.
- ix) Record of last census of road traffic at Level Crossing gate.
- x) Public Complaint Book.
- xi) Inspection Book.
- xii) S&T Inspection register.

C. APPROACH WARNING: Approach warning has been provided for this L.C. Gate at Km. 442/10-12 in DN direction. This device will be provided at a distance of 2 Km. from the L.C. Gate in DN direction and will be effective from track circuit DN AT.

When a train hits the Track Circuit an audible warning buzzer is activated at gate lodge to warn the gateman to close the gate. The buzzer can be stopped by pressing the acknowledgement button. In case of failure of approach warning system, the gateman will report the same to the Station Master on duty to inform the S&T staff to rectify the same.

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1.3 DUTIES OF GATEMAN:**(1) ALERTNESS:**

The gateman shall be alert and be prepared to take immediate action, should danger be apprehended. Keys of the gate shall be in his personal custody.

(2) POSITION DURING PASSAGE OF TRAINS:

During passage of trains, gateman will stand in the manner indicated below:

- (i) Gateman will stand attentively in front of the gate lodge facing the approaching train.
- (ii) In day time, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.
- (iii) In night time, gateman shall hold lighted hand signal lamp with white light facing the track.
- (iv) He shall keep the whistle slung around his neck from a cord.

(3) ROUTINE DUTIES OF GATEMAN:

- (i) Gateman shall place red banner flag during emergencies and obstruction on the track.
- (ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- (iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- (iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- (v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- (vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on walkie – talkie or in any other way.
- (vii) If lifting barriers / leaf gates get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- (viii) Gateman shall report to the nearest SM, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- (ix) In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
- (x) At the gate whose signal have become defective, the gateman shall close and lock and lifting barriers / leaf gates on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- (xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- (xii) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- (xiii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- (xiv) Gateman shall ensure the equipment supplied at the gate is in good order and ready for immediate use.
- (xv) Gateman shall see that the channel for the flange of the wheel is kept clear.

- (xvi) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- (xvii) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- (xviii) Gateman on electrified section shall watch that road vehicles / animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- (xix) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

(4) ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

In case gateman observes anything unusual with a passing train, he shall take following action.

- (i) He shall take prompt action to warn the Loco Pilot / guard of the passing train by showing red flag by day and red light by night.
- (ii) He shall simultaneously try to draw the attention of the Loco Pilot / guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
- (iii) If Loco Pilot/guard fails to take notice, gateman shall immediately inform the Station Master, to take appropriate action, under exchange of private number.
- (iv) In case of train parting, gateman shall not show stop hand signal but shall show prescribed signal for train parting.
- (v) He shall endeavor to attract the attention of the Loco Pilot/guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting them and bringing them together in repeated Up and Down motion as high and as low as possible.
- (vi) In case the train does not stop, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action, under exchange of private number.

(5) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- (i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals in the 'ON' position.
- (ii) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, regarding the defects/obstructions at the gate, under exchange of private number.
- (iii) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.

The gateman shall protect the line as under:-

(a) ON DOUBLE LINE SECTION:

- (i) If both lines are obstructed the gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.
- (ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
- (iii) Gateman shall then proceed to protect the gate along with detonators, LED tri-colour hand signal lamp and red flag by day and red hand signal lamp by night.
- (iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 on BG from the level crossing gate and place 3 detonators on the track 10 meters apart. Having

thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

- (v) Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in Para (iv) above the return to the site of obstruction, picking up the intermediate detonator on his way back.
- (vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
- (vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- (viii) Thereafter, he shall light up and fix the LED tri-colour hand signal lamp to warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(b) **OTHER ACTION TO BE TAKEN BY GATEMAN:**

- (i) At night gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub Para (a) above.
- (ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
- (iii) He shall note down the particulars of the road vehicle, vehicle number, name of the Driver, owner and relay these details to the nearest Station Master or Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

1.4. MODE OF OPERATION:-

INTERLOCKING AND NORMAL WORKING:

The gate is normally kept open for road traffic and is closed against the road traffic for the safe passage of trains as and when required. The gate is interlocked with the DN gate sig. & Up Advanced starter signals. A four lever ground frame is provided adjacent to gate lodge for the operation of signal and locking of gate booms.

The function of the lever frame is as under:

Lever No.1	Spare.
Lever No.2	Boom locking lever
Lever No.3	Slot for UP Advanced Starter Signal.
Lever No.4	DN Gate Home.

To close the gate the Gateman shall close the gate barrier by operating the winch provided at the gate lodge. He shall then take "OUT" key 'G1' from the winch and insert it in the lock of lever No. 2 and turn. This lever No. 2 when reversed affects boom locking and releases lever No. 3 & 4 and Key 'G'. Lever No. 3 & 4 is reversed to send slot for Up Advanced starter signal and DN Gate Stop Signal respectively. This key 'G' will be inserted in the EKT and turned to transmit to the SM/DNKL, which controls the green aspect of UP Advanced Starter No. 13. Station Master on duty will press level crossing control button No. 32 (Chocolate) and common group button (release), L.C. Gate closed indication will appear in the panel and concerned signals automatically get released.

Unless the gate is closed and locked against road traffic and slot is obtained, UP Advanced Starter Signal cannot be taken off.

After the passage of train or completion of shunting the Station Master on duty shall inform the Gateman and press L.C. Gate controlling button No. 32 along with common group button (Trans). Gateman extracts the gate control key 'G' from the RKT instrument on getting free indication. After getting the Key 'G' the Gateman will normalize the boom locking lever No. 2. After normalizing lever No. 2, key "G1" gets released to open the L.C. Gate by operating the winch.

The Level Crossing gate shall be so worked as to cause least possible inconvenience to vehicular traffic on consistent with safety according to SR 16.03.01 (a).

1.5 INTIMATION TO GATEMAN

- (i) Station Master shall advise the gateman through telephone, the number, description and direction of the train and expected passage of the train at the gate.
- (ii) If the actual running time of the train from either end of the section is less then 10 (ten) minutes, Station Master will convey this advise to the gate man before obtaining/granting line clear.
- (iii) It should be the duty of the gate man to ensure that the gate is closed in time so that there is no detention to the train or excessive detention to road traffic.

1.6 FAILURE OF TELEPHONIC COMMUNICATION

When Telephonic Communication fails or it does not get any response from the Gateman despite 2 or 3 attempts, the following procedure should be adopted:

- (i) If the telephone fails at the gate connected with the Station at the dispatching end, station master shall then issue a caution order to the Loco Pilot of the departing train.
- (ii) Station master shall advise the Loco Pilot to whistle continuously and proceed cautiously while approaching the gate.
- (iii) In case the gate signal is ON he should stop short of gate signal and follow the procedure laid under GR 3.73.
- (iv) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- (v) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) Station master will also advise the gateman through gang man/patrolman/Loco Pilot of the first train that the telephone has become defective.
- (vii) Station master should also advise S & T staff responsible for maintenance of the telephone to rectify the defect at the earliest.
- (viii) Normal working will be resumed only after S & T staff rectify the telephone and issue reconnection/ fit memo for the same.

1.7 FAILURE OF LIFTING BARRIERS:

- (i) When the gate cannot be closed due to failure of lifting barriers or leaf gates, the gateman will immediately inform the Station Master on duty, under exchange of private number, and ensure the lifting barriers or leaf gates do not foul the track.
- (ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- (iii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- (iv) After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light to the Loco Pilot of the approaching train.
- (v) Station Master on duty shall issue caution order to the Loco Pilot of departing trains.

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- (vi) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vii) Station Master shall advise maintenance staff responsible for maintenance of lifting barriers/ leaf gates to repair the defect at the earliest.
- (viii) Normal working will resumed only after maintenance staff repair the lifting barrier/ leaf gates and issue reconnection/ fit memo for the same.

1.8 FAILURE OF GATE KEY WITH THE GATE IN CLOSED POSITION, WHEN GATE KEY CANNOT BE EXTRACTED FOR OPENING THE GATE:

- (i) If the gate key cannot be extracted from the winch, the gate leaves or the key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange private number.
- (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.
- (iii) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
- (iv) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (v) Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest.
- (vi) Normal working will be resumed only after S & T staff repairs the winch/gate leaves/key transmitter and issue reconnection/ fit memo for the same.

1.9 FAILURE OF GATE KEY WITH THE GATE IN OPEN CONDITION:

- (i) If the gate key cannot be extracted from the winch, gate lever or key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange of private number.
- (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.
- (iii) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals
- (iv) Station Master on duty shall issue caution order to the Loco Pilot of a departing train.
- (v) He shall also advise the Station Master at the dispatching end, under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end. Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest
- (vi) Normal working will resumed only after S & T staff repair the winch/gate leaves/key transmitter and issues reconnection/ fit memo for the same.

1.10 DEFECTIVE GATE SIGNALS:

- (i) The gateman shall treat the gate signal as defective and must not lower them under following circumstances:
 - (a) If gate signals can be taken "OFF" without closing the gate, or
 - (b) The key can be extracted from the operating winch when the gate is in open condition, or
 - (c) The key can be extracted from the leaf gates when the gate is in open condition.
- (ii) If the Gate or the Gate Signal or Distant Signal becomes defective in "OFF" position, the gateman will make all efforts to put it at "ON" position even by cutting signal wires, if necessary.

- (iii) The gateman will immediately advise the Station Master on duty, under exchange of private number, regarding defective gate signals.
- (iv) Thereafter, the gate must be treated as non interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.
- (v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- (vi) Station Master on duty will issue caution order to the Loco Pilot of a departing train.
- (vii) He shall also advise the Station Master at the dispatching end, under exchange of private number; to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end..
- (viii) Station Master shall advise S & T staff responsible for maintaining the gate signal to repair the same at the earliest
- (ix) Normal working will be resumed after S & T staff rectifies the defective gate signal and issue reconnection/ fit memo for the same.

1.11 **OBSTRUCTION AT THE GATE:**

- (i) If the gate is broken by a road vehicle which is fouling the track or if lifting barriers/ leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (ii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defects / obstructions at the gate, under exchange of private number.
- (iii) Station Master on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.
- (iv) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- (v) Gateman shall then rush with detonators, LED tri-colour hand signal lamp, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect gate vide GR 16.07.
- (vi) Thereafter he shall protect the gate from the other direction also.
- (vii) He shall note down the particulars of the road vehicle, name of the Driver, owner and relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers/ leaf gates are not fouling the track.
- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco Pilot of all trains to proceed cautiously, and pass the reception/departure signal at "ON" position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- (xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible fir maintaining the lifting barriers/leaf gate to repair the same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers/ leaf gates and issue reconnection/ fit memo for the same.

1.12. OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No. 1.11 above. If the obstruction fouls the Level Crossing Gate, gate man must keep the gates closed against road traffic till the track is cleared of the obstruction.

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2.0 **WORKING OF 'C' CLASS LEVEL CROSSING BETWEEN STATIONS DHENKANAL-SADASIBPUR AT Km. 445/27-25 (UP) and 445/26-28 (DN)(CT-40).**

2.1 **BRIEF DESCRIPTION:**

1.	No. of Level Crossing Gate	:	CT-40
2.	Engineering or Traffic gate	:	Engineering
3.	Under control of station master or permanent way inspector.	:	SSE (P.Way)/DNKL
4.	Location at Km.	:	445/27-25 (UP) & 445/26-28(DN)
5.	At station	:	---
6.	In between station	:	DNKL-SSPR
7.	BG/MG/NG	:	BG
8.	Single line/double line/multiple line	:	Double Line
9.	Normal position	:	Closed
10.	Interlocked/ Non-Interlocked	:	Non-Interlocked.
11.	Means of Interlocking	:	---
12.	Provision of gate signal at Km.	:	---
13.	Signaling arrangement	:	---
14.	Means of communication Telephone.	:	Telephone with SM/DNKL
15.	Width of the level crossing gate	:	5.75 m
16.	Type of road	:	Others
17.	Name of road	:	Kesorja village Road
18.	Metalled /Non-Metalled	:	Non-metaled
19.	Approach road	:	Black Top
20.	Width of the road	:	4.0 m
21.	Angle of road crossing (in case of the SKEW gates)	:	-
22.	Road gradients (if any)	:	[a] North East Side. Level [b] South West Side. Level
23.	Road alignment (straight/Curve)	:	[a] North East Side : Straight [b] South West Side: Straight
24.	Provision of height gauges	:	Yes
25.	Type of barriers	:	Lifting
26.	Length of check rails	:	UP 10.20 m. DN 9.85 m.
27.	Road surface in between level crossing gates.	:	C.C. Block
28.	Length of rumble strip/ speed breakers.	:	---
29.	Road signs	:	Yes
30.	Speed breakers indication board	:	Yes
31.	TVU	:	19080, December – 2012
32.	Census next due on	:	December - 2015
33.	Demarcation for placement of detonators.	:	Yes
34.	No. of gateman working	:	2
35.	Nearest Railway Medical Assistance	:	TLHR
36.	Nearest Private Medical Assistance available (if any)	:	DNKL
37.	List of equipment available (Yes/No)	:	Yes.

2.2 EQUIPEMENT TO BE AVAILABLE AT THE GATE:

1.	Hand Signal Lamp Tri Colour	3
2.	Hand Signal Flag Green	1 mounted on stick
3.	Hand Signal Flag Red	3 mounted on sticks
4.	Banner Flag Red	3
5.	Posts for exhibiting red banner flag	2
6.	Spare Chains with Padlocks	2 with stop mark
7.	Detonators	10 in tin case
8.	Gate lamps	2
9.	Tommy Bar	1
10.	Mortar Pan	1
11.	Spade/ Fowrah	1
12.	Rammer	1
13.	Pick Axe	1
14.	Tin Case for Flags	1
15.	Cane for oil	1
16.	Water pot/Bucket	1
17.	Canister for Muster roll	1
18.	Set of spare spectacles of gateman wearing glasses	1
19.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1
20.	Basket	1
21.	Whistle	1
22.	Wall clock	1
23.	Small size chain with padlock	2

2.3 RECORDS TO BE KEPT AT GATE LODGE

In addition to the above equipment, following records shall also be kept at the Gate Loge.

- i) Gate Working Instructions in Hindi/English.
- ii) Gate Working, Instructions in local vernacular language.
- iii) Gateman Rule Book in local vernacular language.
- iv) List for tools and books.
- v) Duty Roster.
- vi) Certificate for working as gateman.
- vii) Bio-data particulars of Gatemen, including date of passing vision test, initial/refresher course, safety camp, etc.
- viii) Accident Register.
- ix) Record of last census of road traffic at Level Crossing gate.
- x) Public Complaint Book.
- xi) Inspection Book.

2.4 MODE OF OPERATION:**NORMAL WORKING OF THE LEVEL CROSSING GATE (NON-INTERLOCKED):**

The level crossing gate is normally kept closed against road traffic and it will be opened for passage of road traffic only when it is necessary and safe to do so. The Gateman on duty before opening the gate shall ensure that he has not exchanged any Private

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Number with the station or if he has exchanged Private Number with the station, the whole of the train with last vehicle indicator has passed over the level crossing gate and the Station Master has not exchanged Private Number with him for any movement immediately in the rear of that train or on the adjacent line (s). Before opening the gate, he shall display a banner flag across the track.

2.5 DUTIES OF GATEMAN:

(1) **ALERTNESS:** The gateman shall be alert and be prepared to take immediate action, should danger be apprehended. Keys of the gate shall be in his personal custody.

(2) POSITION DURING PASSAGE OF TRAINS:

During passage of trains, gateman will stand in the manner indicated below:

- (i) Gateman will stand attentively in front of the gate lodge facing the approaching train.
- (ii) In day time, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.
- (iii) In night time, gateman shall hold lighted hand signal lamp with white light facing the track.
- (iv) He shall keep the whistle slung around his neck from a cord.

(3) ROUTINE DUTIES OF GATEMAN:

- (i) Gateman shall ensure that red banner flag is placed across the track whenever the gate is kept in open condition for passage of road vehicles.
- (ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- (iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- (iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- (v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vaccum cylinder or any other situation endangering safe running of trains.
- (vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on walkie – talkie or in any other way.
- (vii) If lifting barriers / leaf gates get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- (viii) Gateman shall report to the nearest SM, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- (ix) In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
- (x) At the gate whose signal have become defective, the gateman shall close and lock and lifting barriers / leaf gates on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- (xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- (xii) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- (xiii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.

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- (xiv) Gateman shall ensure that equipment supplied at the gate is in good order and ready for immediate use.
- (xv) Gateman shall see that the channel for the flange of the wheel is kept clear.
- (xvi) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- (xvii) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- (xviii) Gateman on electrified section shall watch that road vehicles / animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- (xix) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

(4) ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN:

In case gateman observes anything unusual with a passing train, he shall take following action.

- (i) He shall take prompt action to warn the Loco Pilot/Guard of the passing train by showing red flag by day and red light by night.
- (ii) He shall simultaneously try to draw the attention of the Loco Pilot / Guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
- (iii) If Loco Pilot/guard fails to take notice, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action, under exchange of private number.
- (iv) In case of train parting, gateman shall not show stop hand signal but shall show prescribed signal for train parting.
- (v) He shall endeavor to attract the attention of the Loco Pilot/Guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting them and bringing them together in repeated UP and DN motion as high and as low as possible.
- (vi) In case the train does not stop, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action under exchange of private number.

(5) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- (i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals, if any, in the 'ON' position.
- (ii) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, if connecting by telephone, regarding the defects/ obstructions at the gate, under exchange of private number.
- (iii) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.

The gateman shall protect the line as under:-

- (a)
 - (i) If both lines are obstructed the gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.
 - (ii) The he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
 - (iii) Gateman shall then proceed to protect the gate along with detonators, Battery operated LED based flashing lamps and red flag by day and red hand signal lamp by night.
 - (iv) Gateman shall 'proceed' exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters on BG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 on BG

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from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

- (v) Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in Para (iv) above and return to the site of obstruction, picking up the intermediate detonator on his way back.
- (vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
- (vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
- (viii) Thereafter, he shall light up the Battery operated LED based flashing lamp to warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.

(b) OTHER ACTION TO BE TAKEN BY GATEMAN:

- (i) At night gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub Para (a) above.
- (ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers / leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
- (iii) He shall note down the particulars of the road vehicle, vehicle number, name of the driver, owner and relay these details to the nearest Station Master or Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

2.6 EXCHANGE OF PRIVATE NUMBER:

- (i) The normal position of the level crossing gate is "Closed to Road Traffic".
- (ii) The Station Master before permitting each train to enter into the block section, shall ask Gateman on the telephone by giving a Private Number whether, gate is closed against road traffic for the passage of train. The Gateman only after ensuring that the gate is actually closed and locked against road traffic shall give a Private Number to the Station Master in assurance of gate being closed & locked against road traffic.
- (iii) The Station Master shall not permit any train to enter the block section, unless he is assured of the closure and locking of the gate by the gateman supported by exchange of Private Number.
- (iv) When the gateman desires to open the gate for passage of road traffic he should ensure that:
 - (1) He has not exchanged any private number with the station as per 2.6 (ii) above, or
 - (2) If he has exchanged private number with the Station Master, the whole of the train with last vehicle indicator has passed over the level crossing gate and the Station Master has not exchanged private number with him for any other movement immediately in rear of that train or on the adjacent line (s).

Before opening the gate for road traffic, he shall display banner flag/danger signal at either side of the track at a distance of 5 meters away from the gate. Then he shall open the gate for passing the road traffic, keeping a red flag/red hand signal lamp ready by his hand to stop approaching train if any.

- (ii) In case the Gateman is not responding on the telephone or incase the telephone becomes defective or private number is not received from the Gateman, the Station Master shall adhere to the procedure prescribed in SR 16.03.04.
- (iii) In the event of failure of telephone, if the gate is required to be opened for the passage of road traffic, the gateman shall look out in both directions before opening the gate to ensure that no train is approaching from either end. He shall then plant a banner flag during day and a hand signal lamp with the red light during night, 5 meters away from the gate on the track on either side. He will thereafter, open the gate for passing the road traffic keeping a red flag/red hand signal lamp ready in his hand to stop approaching train if any.

2.7 FAILURE OF TELEPHONIC COMMUNICATION:

When telephonic communication fails or it does not get any response from gateman despite 2 or 3 attempts, the following procedure should be adopted:

- (i) Station master at dispatching end shall issue caution order to the Loco Pilot of the departing train.
- (ii) The caution order shall advice the Loco Pilot to whistle continuously and approach the gate cautiously.
- (iii) The Loco Pilot shall be instructed to pass the gate cautiously, on being hand signaled by the gate man. If hand signal is not seen, the Loco Pilot should prepare to stop short of the gate and depute his assistant Loco Pilot to see the condition of the gate. If gate is closed, the assistant Loco Pilot will give all right signal and if the gate is not closed the assistant Loco Pilot must close the gate and then give all right signal. In the absence of the assistant Loco Pilot, the Loco Pilot may take the assistance of assistant guard/guard.
- (iv) In case of an approaching train, the station master shall advise the station master at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- (v) The station master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) The station master shall advise the gateman through gangman/patrol man or the Loco Pilot of the first train that the telephone has become defective.
- (vii) He should also advise S&T staff responsible for maintenance of the telephone to rectify the same at the earliest.
- (viii) Normal working will be resumed only after S&T staff rectifies the telephone and issue reconnection/fit memo for the same.

2.8 FAILURE OF LIFTING BARRIERS OR LEAF GATES:

- (i) When the gate cannot be closed due to failure of lifting barriers or leaf gates, the gateman will immediately inform the Station Master on duty, under exchange of private number, and ensure that lifting barriers or leaf gates do not foul the track.
- (ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- (iii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- (iv) After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light at night to the Loco Pilot of the approaching train.
- (v) Station Master on duty shall issue caution order to the Loco Pilot of departing train.
- (vi) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vii) Station Master shall advise maintenance staff responsible for maintenance of lifting barriers/ leaf gates to rectify the defect at the earliest.

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- (viii) Normal working will resumed only after maintenance staff rectify the lifting barrier/ leaf gates and issue reconnection/ fit memo for the same.

2.9 OBSTRUCTION AT THE GATE:

- (i) If the gate is broken by a road vehicle which is fouling the track or if lifting barriers/ leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (ii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defects / obstructions at the gate, under exchange of private number.
- (iii) Station Master on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.
- (iv) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- (v) Gateman shall then rush with detonators, Battery operated LED based flashing lamp, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate vide GR 16.07.
- (vi) Thereafter he shall protect the gate from the other direction also.
- (vii) He shall note down the particulars of the road vehicle, name of the driver, owner and relay these details to the Station Master who shall not start the train unless he has been ensured by the gateman that the road vehicle or the lifting barriers/ leaf gates are not fouling the track.
- (viii) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- (ix) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (x) Station Master shall then issue a caution order to Loco Pilots of all trains to proceed cautiously, and pass the gate on green hand signal of the gateman, if the gate is broken, but clear of any obstruction.
- (xi) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- (xii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers/leaf gate to repair the same at the earliest.
- (xiii) Normal working will be resumed only after maintenance staff rectify the defective lifting barriers/ leaf gates and issue reconnection/ fit memo for the same.

2.10 OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No. 2.9 above. If the obstruction fouls the Level Crossing Gate, gate man must keep the gates closed against road traffic till the track is cleared of the obstruction.

3.0 WORKING OF 'SPL' CLASS LEVEL CROSSING BETWEEN STATIONS DHENKANAL-SADASHIBPUR STATION AT KM. 447/17-15 (UP) & 447/16-18 (DN) (CT-41).

A BRIEF DESCRIPTION:

1.	No. of Level Crossing Gate	:	CT-41
2.	Engineering or Traffic gate	:	Engineering.
3.	Under control of station master or permanent way inspector.	:	SSE(P.Way)/DNKL
4.	Location at Km.	:	447/17-15(UP) & 447/16-18 (DN).
5.	At station	:	---
6.	In between station	:	DNKL-SSPR
7.	BG/MG/NG	:	BG
8.	Single line/double line/multiple line	:	Double line
9.	Normal position	:	Open to Road Traffic
10.	Interlocked/ Non-Interlocked	:	Interlocked
11.	Means of Interlocking	:	Gate stop signal
12.	Provision of gate signal at Km.	:	-
13.	Signaling arrangement	:	UP Gate Stop Signal, DN Gate Home, DN Distant & UP Distant
14.	Means of communication.	:	Magneto Telephone with SM/DNKL
15.	Width of the level crossing gate	:	7.0 m
16.	Type of road	:	Others
17.	Name of road	:	Kamakshya nagar Road
18.	Metalled /Non-Metalled	:	Non-metalled.
19.	Approach road	:	Black Top
20.	Width of the road	:	4.20 m
21.	Angle of road crossing (in case of the SKEW gates)	:	45 Degree
22.	Road gradients (if any)	:	[a] North Side: 1 : 30. [b] South Side: 1 : 30.
23.	Road alignment (straight/Curve)	:	[a] North /East Side: Curve [b] South / East Side: Curve
24.	Provision of height gauges	:	Provided
25.	Type of barriers	:	Lifting barriers
26.	Length of check rails	:	12.8 m
27.	Road surface in between level crossing gates.	:	C.C. Block.
28.	Length of rumble strip/ speed breakers.	:	---
29.	Road signs	:	Available
30.	Speed breakers indication board	:	Available
31.	TVU	:	143208, December - 2012
32.	Census next due on	:	December - 2015
33.	Demarcation for placement of detonators.	:	Available
34.	No. of gateman working	:	Three
35.	Nearest Railway Medical Assistance	:	TLHR
36.	Nearest Private Medical Assistance available (if any)	:	DNKL
37.	List of equipment available (Yes/No)	:	Yes

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B EQUIPEMENT TO BE AVAILABLE AT THE GATE:

1.	Hand Signal Lamp Tri Colour	3
2.	Hand Signal Flag Green	1 mounted on stick
3.	Hand Signal Flag Red	3 mounted on sticks
4.	Banner Flag Red	3
5.	Posts for exhibiting red banner flag	2
6.	Spare Chains with Padlocks	2 with stop mark
7.	Detonators	10 in tin case
8.	Gate lamps	2
9.	Tommy Bar	1
10	Mortar Pan	1
11.	Spade/ Fowrah	1
12.	Rammer	1
13.	Pick Axe	1
14.	Tin Case for Flags	1
15.	Cane for oil	1
16	Water pot/Bucket	1
17	Canister for Muster roll	1
18	Set of spare spectacles of gateman wearing glasses	1
19	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1
20	Basket	1
21	Whistle	1
22	Wall clock	1
23	Small size chain with padlock	2

C RECORDS TO BE KEPT AT GATE LODGE

In addition to the above equipment, following records shall also be kept at the Gate Loge.

- i) Gate Working Instructions in Hindi/English.
- ii) Gate Working, Instructions in local vernacular language.
- iii) Gateman Rule Book in local vernacular language.
- iv) List for tools and books.
- v) Duty Roster.
- vi) Certificate for working as gateman.
- vii) Bio-data particulars of Gatemen, including date of passing vision test, initial/refresher viii course, safety camp, etc.
- viii) Accident Register.
- ix) Record of last census of road traffic at Level Crossing gate.
- x) Public Complaint Book.
- xi) Inspection Book.
- xii) S&T Inspection Register.

- D. **APPROACH WARNING:** Approach warning has been provided for this L.C. Gate at Km. 447/16-18 in DN direction & 447/17-15 in UP direction. This device will be provided at a distance of 2 Km. from the L.C. Gate in DN direction and will be effective from track circuit DN AT.

When a train hits the Track Circuit, an audible warning buzzer is activated at gate lodge to warn the gateman to close the gate. The buzzer can be stopped by pressing the acknowledgement button. In case of failure of approach warning system, the gateman

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DSTE/KUR

(P.K.MOHANTY)
SR.DEN/CEN/KUR

(B.PANDA)
DOM/KUR

will report the same to the Station Master on duty to inform the S&T staff to rectify the same.

3.1 **DUTIES OF GATEMAN:**

(1) **ALERTNESS:**

The gateman shall be alert and be prepared to take immediate action, should danger be apprehended. Keys of the gate shall be in his personal custody.

(2) **POSITION DURING PASSAGE OF TRAINS:**

During passage of trains, gateman will stand in the manner indicated below:

- (i) Gateman will stand attentively in front of the gate lodge facing the approaching train.
- (ii) In day time, gateman shall hold red and green flags furled up on separate sticks in right and left hands respectively.
- (iii) In night time, gateman shall hold lighted hand signal lamp with white light facing the track.
- (iv) He shall keep the whistle slung around his neck from a cord.

(3) **ROUTINE DUTIES OF GATEMAN:**

- (I) Gateman shall place red banner flag during emergencies and obstruction on the track.
- (ii) Gateman shall ensure that gate lamps and lamps of all gate signals are lighted and kept burning continuously from sunset to sunrise.
- (iii) Gateman shall perform his duties strictly according to the duty roster and shall not leave the gate unless reliever arrives and takes charge of it. However, if it is necessary to leave the gate in an emergency, he must close and lock the gates against road traffic, before leaving the gate.
- (iv) Except where otherwise prescribed under special instructions, he shall observe all passing trains and be prepared to take such action as may be necessary to ensure safety of trains.
- (v) Gateman shall watch all passing trains and keep sharp look out for any unusual like hot axle, hanging chains, hanging battery, any vehicle / wagons / train / battery box on fire, shifted load, falling material like brake blocks, brake beams, safety bracket, vacuum cylinder or any other situation endangering safe running of trains.
- (vi) Gateman shall also be prepared to repeat any signal which guard may give to Loco Pilot on walkie – talkie or in any other way.
- (vii) If lifting barriers / leaf gates get damaged or becomes out of order, the gateman shall use the spare chain with disc and padlocks for securing the gate against road traffic.
- (viii) Gateman shall report to the nearest SM, Gangmate or Permanent Way Inspector any defect in his gate or apparatus pertaining to it, as soon as possible.
- (ix) In the event of gate signal becoming defective the gateman shall maintain the signal in the 'ON' position even by disconnecting the signal or the wire if necessary.
- (x) At the gate whose signal have become defective, the gateman shall close and lock and lifting barriers / leaf gates on sighting a train and hand signal or pilot the train past the defective signal. In such case he should inform the Loco Pilot to report the defect at the next station.
- (xi) Gateman shall wear badge and prescribed uniform while on duty at level crossing gate.
- (xii) Gateman shall ensure that he is having competency certificate in his possession while on duty.
- (xiii) Gateman shall work the gate as per Gate Working Instructions and remain well conversant with these instructions.
- (xiv) Gateman shall ensure the equipment supplied at the gate is in good order and ready for immediate use.
- (xv) Gateman shall see that the channel for the flange of the wheel is kept clear.

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(B.PANDA)
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- (xvi) Gateman shall keep the road surface well watered and rammed in case of unmetalled roads.
- (xvii) Gateman must be vigilant to see that inconvenience to road users due to closure of gates should be to the minimum possible extent.
- (xviii) Gateman on electrified section shall watch that road vehicles / animals passing from gate are within the height loading gauge provided on either side of the level crossing gate.
- (xix) Gateman shall prevent trespassing by persons or cattle to the maximum extent.

(4) ACTION IN CASE OF UNUSUAL OCCURRENCE ON TRAIN :

In case gateman observes anything unusual with a passing train, he shall take following action.

- (i) He shall take prompt action to warn the Loco Pilot / guard of the passing train by showing red flag by day and red light by night.
- (ii) He shall simultaneously try to draw the attention of the Loco Pilot / guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
- (iii) If Loco Pilot/guard fails to take notice, gateman shall immediately inform the Station Master, to take appropriate action, under exchange of private number.
- (iv) In case of train parting, gateman shall not show stop hand signal but shall show prescribed signal for train parting.
- (v) He shall endeavor to attract the attention of the Loco Pilot/Guard by whistling continuously, shouting, gesticulating and by raising both hands vertically above, quickly parting them and bringing them together in repeated UP and DN motion as high and as low as possible.
- (vi) In case the train does not stop, gateman shall immediately inform the Station Master, if connected on telephone, to take appropriate action, under exchange of private number.

(5) ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:

- (i) In case of an obstruction at the level crossing gate, gateman shall maintain the gate signals in the 'ON' position.
- (ii) Thereafter, if he is unable to remove the obstruction, gateman shall immediately advise the Station Master on duty, regarding the defects/obstructions at the gate, under exchange of private number.
- (iii) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.

The gateman shall protect the line as under:-

(a) ON DOUBLE LINE SECTION:

- (i) If both lines are obstructed the gateman shall plant a red banner flag by day and a red light by night 5 meters away on posts duly provided for the purpose. He shall first protect the line on which a train is expected to arrive first.
- (ii) Then he will similarly plant the other red banner flag by day and red light by night on the other line 5 meters away from the site of obstruction.
- (iii) Gateman shall then proceed to protect the gate along with detonators, LED tri-colour hand signal lamp and red flag by day and red hand signal lamp by night.
- (iv) Gateman shall proceed exhibiting red flag by day and red hand signal lamp by night on the line on which a train is expected to arrive first, to a point 600 meters on BG and 400 meters on MG and place one detonator on the line. Thereafter he shall proceed to a distance 1200 on BG and 800 meters on MG from the level crossing gate and place 3 detonators on the track 10 meters apart. Having thus protected the line he shall return to the level crossing gate picking up the intermediate detonator on his way back.

(A.K.JENA)
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(P.K.MOHANTY)
SR.DEN/CEN/KUR

(B.PANDA)
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- (v) Thereafter, he shall proceed on the other line, showing red hand signal, similarly place detonators as described in Para (iv) above the return to the site of obstruction, picking up the intermediate detonator on his way back.
 - (vi) Having returned to the gate, he must then take steps to remove the obstruction and warn the Loco Pilot of the approaching train.
 - (vii) In case the gateman observes or hears a train approaching when he is still on his way to protect and before he reaches the stipulated distance to place detonators, he shall place detonators on the line at a distance as far away as he can go.
 - (viii) Thereafter, he shall light up and fix the LED tri-colour hand signal lamp to warn the Loco Pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.
- (b) **OTHER ACTION TO BE TAKEN BY GATEMAN:**
- (i) At night gateman shall light two hand signal lamps and take action to exhibit red light and protect the lines as described in sub Para (a) above.
 - (ii) If the gate is broken by a road vehicle which is fouling the track, or if lifting barriers or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall take immediate action.
 - (iii) He shall note down the particulars of the road vehicle, vehicle number, name of the Driver, owner and relay these details to the nearest Station Master or Permanent Way Inspector regarding the particulars and obstructions at the level crossing gate, through messenger or other means available.

3.2 **MODE OF OPERATION:**

INTERLOCKING AND NORMAL WORKING:

The gate is normally kept open for road traffic and is closed against the road traffic for the safe passage of trains as and when required. The gate is interlocked with the UP & DN Gate Home signals. A four lever ground frame is provided adjacent to gate lodge for the operation of signal and locking of gate booms.

The function of the lever frame is as under:

Lever No.1	Spare.
Lever No.2	Boom locking lever
Lever No.3	UP Gate Stop Signal.
Lever No.4	DN Gate Stop Signal.

To close the gate the Gateman shall close the gate barrier by operating the winch provided at the gate lodge. He shall then take "OUT" key 'G' from the winch and insert it in the lock of lever No. 2 and turn. This lever No. GF2 when reversed affects boom locking and releases UP and DN Gate home signals GF3 and GF4 respectively.

After the passage of the train the signal levers to be normalized and lock levers to be made normal. This will unlock the gate boom and to allow the key "G" to be taken out. This key "G" will be inserted in the winch and unlock to open the gate by operating the winch".

APPROACH WARNING: Approach warning has been provided for this L.C. Gate at Km. 447/17-15 in UP direction & Km. 447/16-18 in DN direction.

In normal condition when a train hits the Track Circuit No.15T of UP Advanced Starter of SSPR in UP direction and Track Circuit No.14T of DN Advanced Starter of DNKL an audible warning buzzer is activated at gate lodge to warn the gateman to close the gate. The buzzer can be stopped by pressing the acknowledgement button. In case of failure

of approach warning system, the gateman will report the same to the Station Master on duty to inform the S&T staff to rectify the same.

3.3 INTIMATION TO GATEMAN

- (i) Station master shall advise the gateman through telephone connected at his end, the number, description and direction of the train and expected passage of the train at the gate.
- (ii) If the actual running time of the train from either end of the section is less than 10 (ten) minutes, Station Master will convey this advice to the gate man before obtaining/granting line clear.
- (iv) It should be the duty of the gate man to ensure that the gate is closed in time so that there is no detention to the train or excessive detention to road traffic.

3.4 FAILURE OF TELEPHONIC COMMUNICATION

When Telephonic Communication fails or it does not get any response from the Gateman despite 2 or 3 attempts, the following procedure should be adopted:

- (i) If the telephone fails at the gate connected with the Station at the dispatching end, station master shall then issue a caution order to the Loco Pilot of the departing train.
- (ii) Station master shall advise the Loco Pilot to whistle continuously and proceed cautiously while approaching the gate.
- (iii) In case the gate signal is ON he should stop short of gate signal and follow the procedure laid under GR 3.73.
- (iv) In case of an approaching train, the Station Master shall advise the Station Master at the dispatching end, under exchange of private number that the telephone at the gate has failed.
- (v) The Station Master at the dispatching end shall then issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vi) Station master will also advise the gateman through gang man/patrolman/Loco Pilot of the first train that the telephone has become defective.
- (vii) Station master should also advise S & T staff responsible for maintenance of the telephone to rectify the defect at the earliest.
- (viii) Normal working will be resumed only after S & T staff rectify the telephone and issue reconnection/ fit memo for the same.

3.5 FAILURE OF LIFTING BARRIERS:

- (i) When the gate cannot be closed due to failure of lifting barriers or leaf gates, the gateman will immediately inform the Station Master on duty, under exchange of private number, and ensure the lifting barriers or leaf gates do not foul the track.
- (ii) He shall immediately fix red banner flag by day and red light by night on the post at that end first from which the train is approaching and then at the other end.
- (iii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks.
- (iv) After securing the gate against road traffic, gateman shall show green hand signal flag by day and green light to the Loco Pilot of the approaching train.
- (v) Station Master on duty shall issue caution order to the Loco Pilot of departing trains.
- (vi) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (vii) Station Master shall advise maintenance staff responsible for maintenance of lifting barriers/ leaf gates to repair the defect at the earliest.

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- (viii) Normal working will resumed only after maintenance staff repair the lifting barrier/ leaf gates and issue reconnection/ fit memo for the same.

3.6 FAILURE OF GATE KEY WITH THE GATE IN CLOSED POSITION, WHEN GATE KEY CANNOT BE EXTRACTED FOR OPENING THE GATE:

- (i) If the gate key cannot be extracted from the winch, the gate leaves or the key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange private number.
- (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.
- (iii) Station Master on duty shall issue a caution order to the Loco Pilot of a departing train.
- (iv) He shall also advise the Station Master at the dispatching end, under exchange of private number, to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (v) Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest.
- (vi) Normal working will be resumed only after S & T staff repairs the winch/gate leaves/key transmitter and issue reconnection/ fit memo for the same.

3.7 FAILURE OF GATE KEY WITH THE GATE IN OPEN CONDITION:

- (i) If the gate key cannot be extracted from the winch, gate lever or key transmitter then gateman must immediately inform the Station Master on duty on telephone, under exchange of private number.
- (ii) Thereafter, the gate must be treated as non-interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.
- (iii) Gateman shall secure the gate against road traffic by means of chains and padlocks and pass trains on hand signals
- (iv) Station Master on duty shall issue caution order to the Loco Pilot of a departing train.
- (v) He shall also advise the Station Master at the dispatching end, under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end. Station Master shall advise S & T staff responsible for maintenance of winch/gate leaves/key transmitter to rectify the defect at the earliest
- (vi) Normal working will resumed only after S & T staff repair the winch/gate leaves/key transmitter and issues reconnection/ fit memo for the same.

3.8 DEFECTIVE GATE SIGNALS:

- (i) The gateman shall treat the gate signal as defective and must not lower them under following circumstances:
- (a) If gate signals can be taken "OFF" without closing the gate, or
- (b) The key can be extracted from the operating winch when the gate is in open condition, or
- (c) The key can be extracted from the leaf gates when the gate is in open condition.
- (ii) If the Gate or the Gate Signal or Distant Signal becomes defective in "OFF" position, the gateman will make all efforts to put it at "ON" position even by cutting signal wires, if necessary.
- (iii) The gateman will immediately advise the Station Master on duty, under exchange of private number, regarding defective gate signals.
- (iv) Thereafter, the gate must be treated as non interlocked and procedure for reception/ dispatch of trains as prescribed for non-interlocked gates should be adopted.

(A.K.JENA)
DSTE/KUR

(P.K.MOHANTY)
SR.DEN/CEN/KUR

(B.PANDA)
DOM/KUR

- (v) He shall show green hand signal flag by day and green light by night to the passing train after closing the gate.
- (vi) Station Master on duty will issue caution order to the Loco Pilot of a departing train.
- (vii) He shall also advise the Station Master at the dispatching end, under exchange of private number to similarly issue a caution order to the Loco Pilot before dispatching a train in the block section from his end.
- (viii) Station Master shall advise S & T staff responsible for maintaining the gate signal to repair the same at the earliest
- (ix) Normal working will be resumed after S & T staff rectifies the defective gate signal and issue reconnection/ fit memo for the same.

3.9 OBSTRUCTION AT THE GATE:

- (i) If the gate is broken by a road vehicle which is fouling the track or if lifting barriers/ leaf gates or any other part of the gate foul the track, or if there is any other obstruction at the gate, the gateman shall immediately fix red banner flag by day and red lamp by night on posts provided at both ends of the gate, for this purpose.
- (ii) He shall fix red banner flag by day and red lamp by night on posts provided at both ends of the gate for this purpose.
- (iii) Immediately after this, the gateman shall advise the Station Master on duty, regarding the defects / obstructions at the gate, under exchange of private number.
- (iv) Station Master on duty shall be advised to put the reception/departure signals back to 'ON' position, if taken 'OFF' for a train.
- (v) If there is no response from the Station Master after two or three attempts, he shall first protect the gate and then inform on phone.
- (vi) Gateman shall then rush with detonators, LED tri-colour hand signal lamp, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect gate vide GR 16.07.
- (vii) Thereafter he shall protect the gate from the other direction also.
- (viii) He shall note down the particulars of the road vehicle, name of the Driver, owner and relay these details to the Station Master who shall not start the train unless he has been assured by the gateman that the road vehicle or the lifting barriers/ leaf gates are not fouling the track.
- (ix) The Station Master shall also inform the Station Master at the dispatching end, under exchange of private number, asking him not to dispatch any train in the block section from his end, until the track has been cleared of all obstruction.
- (x) After the track has been cleared of all obstructions the gateman shall inform the Station Master accordingly, under exchange of private number.
- (xi) Station Master shall then issue a caution order to Loco Pilot of all trains to proceed cautiously, and pass the reception/departure signal at "ON" position on green hand signal of the gateman, if the gate is broken, but is clear of any obstruction.
- (xii) Gateman shall secure the gate against road traffic by means of safety chains and padlocks and there after exhibit green hand signal, if the gate is not obstructed.
- (xiii) Station Master shall advise maintenance staff responsible for maintaining the lifting barriers/leaf gate to repair the same at the earliest.
- (xiv) Normal working will be resumed only after maintenance staffs rectify the defective lifting barriers/ leaf gates and issue reconnection/ fit memo for the same.

3.10 OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING GATE:

If there is a rail fracture or obstruction on the track due to falling of a tree, fouling by road vehicle or derailment which is visible to the gateman, the gateman and Station Master will adopt the procedure given under item No. 3.9 above. If the obstruction fouls the

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Level Crossing Gate, gate man must keep the gates closed against road traffic till the track is cleared of the obstruction.

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SYSTEM OF SIGNALLING, INTERLOCKING AND COMMUNICATION ARRANGEMENTS AT DHENKANAL STATION

This is a 'B' class station Standard-II (R) Interlocking (with isolations and is provided with panel interlocking system). The points and Signals etc. are power operated from composite miniature central panel installed in the Station Master's Office. The Station is equipped with Multiple Aspect Colour Light Signaling.

1.1 **DESCRIPTION OF PANEL:**

The yard lay out 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.

1.2 **POINT PUSH BUTTON:**

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) (N) or (R) as per requirement, fitted on the top of panel board.

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.

1.2.4. 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) **TLHR END POINTS:**

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

b) **NRG END POINTS**

Sl. No.	Button No.	Colour	Description
1.	20 A/B WN	BLACK	Crossover point between UP and DN Main Lines
2.	22 A/B WN	BLACK	Crossover point between DN Main and Common Loop Lines..
3.	24 A/B WN	BLACK	Crossover point between UP Loop and UP Main Lines
4.	CONTROL 26	BLUE	Control on Goods siding.
5.	CONTROL 28	BLUE	Control on Engg. siding.
6.	CONTROL 32	CHOCL ATE	Control on Level Crossing gate at Km. 442/11-9 (UP) & 442/10-12 (DN).

1.2.8 **DESCRIPTION OF POINT GROUP BUTTON:**

These are two buttons at the top of panel one for Normal and one for Reverse. These are coloured Black with red dot. The button is operated in conjunction with point button to operate the concerned point to the required setting.

1.3 **SIGNAL PUSH BUTTON:**

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.

1.3.1 **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 Main, UP Loop and Common Loop lines.
2.	1 A/B/C	RED	UP Home signal for UP Main, UP Loop 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	YELLOW	Shunt signal for DN Main and Common Loop Lines.
6.	SH4	YELLOW	Shunt signal for DN Main, UP Main, UP Loop and Common Loop lines.
7.	6	RED	Common Loop Line Starter
8.	7	RED	UP Loop Line Starter.
9.	9	RED	Common Loop Line Starter.
10.	11	RED	UP Main Line Starter.
11.	12	RED	DN Main Line Starter.
12.	13	RED	UP Advanced Starter.
13.	14	RED	DN Advanced Starter.
14.	16	RED	DN IB Stop Signal

1.3.2 **SIGNAL INDICATIONS:**

The aspects of the signals as obtained at any time are shown on the panel on the signal indication along side of the track.

1.4 **ROUTE BUTTONS:**

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- 1.4.1 Route buttons are provided separately on each running line on the panel for initiation of route. Common route buttons are also provided for taking off starters. An individual route button is provided for taking off Advanced Starter for clearing the signals. An individual route button is provided for taking off DN IB Stop signal for clearing the signals. It is necessary to operate the signal buttons and the concerned route button simultaneously for taking "OFF" concerned signal.

1.4.2 **DESCRIPTION OF ROUTE BUTTONS:**

Sl. No.	Button No.	Colour	Description
1.	L1-UN	WHITE	Route button for DN Home for Common Loop line, overlap set to Main Line.
2.	L1-UN1	WHITE	Route button for UP/DN Home (overlap set to sand hump)/ shunt signal No. 3/Shunt signal No. 4/Calling-on for Common Loop line
3.	L2-UN	WHITE	Route button for DN Home/Calling-on/ shunt signal No.3/ shunt signal No. 4 for DN main line.
4.	L3-UN	WHITE	Route button for UP Home/Calling-on/Shunt Signal No.4 for UP main Line.
5.	L4-UN	WHITE	Route button for UP Home Signal for UP Loop Line, overlap set to Main Line.
6.	L4-UN1	WHITE	Route button for UP Home signal, overlap set to overrun line /UP Calling-on/Shunt signal Nos. 4 for UP loop line.
7.	13AT- UN	WHITE	Common route button for UP main starter signal No. 11, UP common loop starter signal No. 9 and UP loop starter signal No. 7.
8.	14AT-UN	WHITE	Common route button for DN Main Starter Signal No.12 and DN Common Loop starter signal No.6.
9.	13 UN	WHITE	Route button for UP Advanced Starter Signal No.13.
10.	14UN	WHITE	Route button for DN Advanced Starter Signal No.14.
11	16UN	WHITE	Route button for DN IB stop signal No.16

CRANK HANDLE PUSH BUTTON

1.	CH-1	BLUE	To be pressed to extract Crank Handle Key for operation of Point No. 20 along with "TRANS" Push Button
2.	CH-2	BLUE	To be pressed to extract Crank Handle Key for operation of Point No. 21 along with "TRANS" Push Button.
3.	CH-3	BLUE	To be pressed to extract crank handle key for operation of point No. 22 & 23 along with "TRANS" push button.
4.	CH-4	BLUE	To be pressed to extract crank handle key for operation of point No. 24 & 25 along with "TRANS" push button.

MISCELLANEOUS PUSH BUTTONS

1.	SM'S EMERGENCY POINT / 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 OR L.C. Gate operation along with concerned Slot / Crank Handle / L.C. Gate Button.

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DOM/KUR

4	GROUP RELEASE PUSH BUTTON	WHITE WITH BLACK DOT.	To be pressed to withdraw / Normalize the control of slot / Crank Handle/ L.C Gate operation along with concerned Slot/ Crank Handle/L.C Gate push Button.
5	POINT GROUP NORMAL PUSH BUTTON	BLACK WITH RED DOT.	To be pressed to initiate "NORMAL" setting of point along with concerned point push button.
6	POINT GROUP REVERSE PUSH BUTTON	BLACK WITH RED DOT.	To be pressed to initiate "REVERSE" setting of point along with concerned point push button.
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 a Rout after passage of train.
9	SIGNALLAMP FAILURE / POINT FAILURE ACKNOW- LEDGEMENT	RED WITH WHITE DOT	To be pressed for acknowledging signal lamp failure/ point failure Buzzer.
10	EMERGENCY POINT OPERATION	BLACK WITH RED DOT	To be pressed to operate the point when concerned point zone axle counters or track circuit failed.
11	BUTTON HELD ACKNOWLEDGE MENT 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	EMERGENCY GATE RELEASE BUTTON FOR L.C. GATE AT KM 442/11-9 (UP) & 442/10-12 (DN)	CHOCOLATE WITH RED DOT.	To be pressed for emergency Gate Release at Km. 442/11-9 (UP) & 442/10-12 (DN)
13	L.C. GATE CONTROL 32 PUSH BUTTON	CHOCOLATE	To be pressed for extending Control to open L.C. Gate at Km. 442/11-9 (UP) & 442/10-12 (DN)
14	GOODS SIDING CONTROL POINT NO. 26 PUSH BUTTON.	BLACK	To be pressed along with TRANS button for extracting key from RKT to operate the siding point.
15	ENGG SIDING CONTROL POINT NO.28 PUSH BUTTON.	BLACK	To be pressed along with TRANS button for extracting key from RKT to operate the siding point.
16	RESET PUSH BUTTON FOR DN LV AT SSPR END	RED	To be pressed for initiating reset for axle counter for section DNKL-SSPR.
17	RESET PUSH BUTTON FOR UP LV AT SSPR END	RED	To be pressed for initiating reset for axle counter for section DNKL -SSPR.

(A.K.JENA)
DSTE/KUR(B.PANDA)
DOM/KUR

18	RESET PUSH BUTTON FOR DN LV AT JRZ END	RED	To be pressed for initiating reset for axle counter for section DNKL - JRZ.
19	RESET PUSH BUTTON FOR UP LV AT JRZ END	RED	To be pressed for initiating reset for axle counter for section DNKL - JRZ.
20	RESET KEY FOR DN LV AT SSPR END		Reset key to be inserted on the panel for resetting the Axle counter for section DNKL - SSPR.
21	RESET KEY FOR UP LV AT SSPR END		Reset key to be inserted on the panel for resetting the Axle counter for section DNKL - SSPR.
22.	RESET KEY FOR DN LV AT JRZ END		Reset key to be inserted on the panel for resetting the Axle counter for section DNKL - JRZ.
23.	RESET KEY FOR UP LV AT JRZ END		Reset key to be inserted on the panel for resetting the Axle counter for section DNKL - JRZ
24.	PREP RESET		Green indication will appear on the panel after resetting.
25.	RESET PUSH BUTTON FOR DN IB SSPR END	RED	To be pressed for initiating reset for axle counter for section DNKL-SSPR DN line.
26.	PUSH BUTTON FOR UP IB SECTION SSPR END.	RED	To be pressed for giving permission to SSPR for resetting UP IB section axle counter section SSPR-DNKL.
27.	UP BLOCK RELEASE PUSH BUTTON	CHOCOLATE WITH WHITE	To be pressed for normalizing the Block Instrument for section SSPR- DNKL.
28	DN BLOCK RELEASE PUSH BUTTON	CHOCOLATE WITH WHITE	To be pressed for normalizing the Block Instrument for section JRZ-DNKL.
29	COMMON RESET KEY		Common Key to be turned for resetting the axle counters for point zones and loop lines.
30	L1 AXTAZVBN A/C Reset Button	BLUE	Button to be pressed for resetting the axle counters for Common Loop line.
31	L4AXTAZVBN A/C Reset Button	BLUE	Button to be pressed for resetting the axle counters for UP Loop line.
32	26 AXT1AZVBN A/C reset button	BLUE	Button to be pressed for resetting the axle counters for Goods siding point zone [East end] on common Loop line.
33	26 AXT2AZVBN A/C reset button	BLUE	Button to be pressed for resetting the axle counters for Engg. Siding point zone [West end] on UP Loop line.

1.5 **POINT FAILURE INDICATION (RED) /POINT FAILURE BUZZER/POINT FAILURE MUTING BUTTON (RED WITH WHITE DOT):**

Whenever there is failure of point due to non-setting, point failure indication flashing light appears near the point failure-muting button besides audible Buzzer. The buzzer stops when the point failure-muting button is pressed, but the flashing light above the muting button shall continue to glow. The flashing light at the concerned point zone can identify

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

the defective point. After the failure is rectified, the flashing light above the muting button will disappear.

1.6 FAILURE OF TRIPLE POLE SIGNAL LAMP AND MUTING BUTTON:

Triple pole double filament signal lamps have been used at this station. In case main filament fuses auxiliary filament will automatically lit up with same intensity. However failure of main filament will be indicated by the appearance of 'RED' light on panel along with audible buzzer, which can be stopped by pressing the acknowledgement button. But the RED light will glow till replacing the bulb rectifies the failure. For rectification of failure SM on duty should inform the ESM/JE/SE (Sig) about the group which has failed. For the purpose of giving main filament failure indication the following groups are formed on either side.

- | | | | |
|----|--------------------------------|----|--------------------------------|
| 1. | UP distant. | 4. | UP Starters. |
| 2. | DN Home & UP Advanced Starter. | 5. | UP Home & DN Advanced Starter. |
| 3. | DN Gate Home & DN Distant. | 6. | DN Starters |

1.7 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.

1.8 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' 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 yellow light will lit 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. [Refer SR 3.36.02 (a)]

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.

1.9 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. If such operation is necessary, the SM on duty, after ensuring that no vehicle is standing on the concerned point track circuit 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

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

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.

1.10 **EMERGENCY GATE RELEASE OPERATION (CHOCOLATE WITH RED DOT):**

Emergency gate release operation facility is provided in the panel when the route gets locked due to some failure. For emergency release of gate, the SM on duty shall press emergency gate release button and the respective gate control button. A red flashing (Gate lock) indication will appear and after a lapse of 120 seconds. Gate lock indication will disappear and a white light will glow over the emergency gate release button indicating that the operation is matured. The SM on duty shall then operate gate control push button and group Trans button to release the key from RKT in gate Lodge. All such operation will be registered in the emergency gate operation counter. All such emergency operation shall be recorded in the station diary and in the register meant for it.

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

All push button 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 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 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 (Yellow 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 are provided. From last trailing point/fouling mark in either side of Yard to Advanced Starter Signals are also track circuited (i.e. 13AT1, 13AT2 and 14AT in UP and DN directions respectively). Indications for the above track circuits are available on panel at SM's office. No Yellow light over track on the panel when route is set for any signal indicates track clear and Red light indicates track occupied condition.

1.14 **AXLE COUNTER:**

- (i) Electronic Analog Axle Counters are provided on UP Loop & Common loop berthing portions in the yard for counting Axles 'IN' and counting axles 'OUT' which indicate whether the concerned berthing track/point zone track monitored by analog axle counters is clear or occupied.
- (ii) The entire Block Section on both UP and DN Lines between the stations SSPR-DNKL & DNKL-JRZ are monitored by Digital Axle counter system. These Digital Axle Counters are provided for Last Vehicle check on either Block Sections as well as for dispatching a train in block section from either end of the section.

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

- (iii) These Digital Axle counter system counts the Axles 'IN' and counting axles 'OUT' in the respective block sections which indicate whether the concerned sections monitored by digital axle counters is clear or occupied.
- (iv) Fiberglass trolley wheels are to be provided for push trolleys in lieu of trolley suppression track circuits.
- (v) **IB SECTION SSPR- DNKL UP LINE:**
A pair of Digital axle counter is provided on UP line to monitor the IB section from Advanced Starter Signal No. 15 of SSPR to 400 m beyond the UP IB Home signal No. 14 of SSPR.
- (vi) **IB SECTION DNKL-SSPR DN LINE:**
A pair of Digital axle counter is provided on DN line to monitor the IB section from Advanced Starter Signal of DNKL to 400m beyond DN IB Home signal No. 16 of DNKL.
- (vi) A pair of digital axle counter is provided between SSPR-DNKL on UP line one just beyond UP IB Home signal No. 14 of SSPR in 14T track circuit and another just beyond UP Home signal of DNKL to monitor LV section.
- (vii) A pair of digital axle counter is provided between DNKL-SSPR on DN line one just beyond DN IB Home signal No. 16 of DNKL on 16T track circuit and another on track 2T2 just beyond DN Home signal of SSPR to monitor LV section.
- (viii) A pair of electronic axle counter is provided between DNKL-JRZ on UP line one just beyond UP advanced starter DNKL and another 180m beyond Up Home signal of JRZ.
- (ix) Similarly a pair of electronic axle counter is provided between JRZ-DNKL on DN line one just beyond DN Advanced starter of JRZ and another on track circuit No. 2T2 i.e. beyond DN Home signal of DNKL.

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.

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 Train has arrived complete with its Last Vehicle at the receiving station, by exchanging Private Number then resetting to be complied with.

- (iv) In case of failure of Axle Counter the re-setting of axle counter must be done as per the procedure given in Appendix-"B". In the event of failure of Axle Counter/ Track circuit the clearance of loop lines 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:

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

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 indication/Axle counter indication. The indication of track/Axle counter will exhibit Red Light when track is occupied and yellow light when track is clear.

2.0 **STATION MASTER's PANEL CONTROL KEY:**

The panel is fitted with Station Master's lock up key to prevent any simultaneous 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 releasing the panel lock also. However, the provisions of SR 3.36.02 shall be followed while replacing the signals to 'ON'.

2.1 **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. 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 glass fronted wooden box 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 on duty 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 at Location box flashing white light disappears. On extraction of CH key from RKT, the points in that particular group are in operation 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).

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 white 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:**

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

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 advance starter signal button shall be pressed along with the advanced starter route button for two to three seconds and released. This will clear the advance starter signal and a white 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 white 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 a 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 signal and route button pressing 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., a yellow light glows at the concerned Calling-on signal on the panel.

NOTE:

No train can pass through while receiving on Calling-on signal.

2.5. **RELEASE/CANCELLATION OF ROUTE:**

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

NOTE:

UP and DN Calling-on signals and UP and DN Advanced starters and DN IBS signal are to be manually cancelled after the passage of the train to cancel 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 by the relevant Home signals and starters.

- 2.7.1. UP Advanced Starter and DN IBS Signal are interlocked with respective Block Instrument in Line Clear Position.
- 2.8. 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..
- 2.9. 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.
- 2.9.a. **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 in both the cases,

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 him self 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 and trailing 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.

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. There after 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 along with other authorities, if any.

NOTE

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

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

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.

2.10. SHUNTING:

1. For shunting, caution aspect of starter signals shall be used.

2. For back shunting individual shunt signal No.3 and 4 are provided at East and West side of the yard respectively for shunting back to the station yard in desired direction. 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.

3.0 DESCRIPTION OF SIDING:

The Goods siding at NRG end of the yard with one side entry is taking off from Common Loop (Line No.1). The entrance point is coupled and operated by an arc lever at site. The entrance point is fitted with hand plunger locks. This hand plunger locks is unlocked by the siding keys "B1" released by pressing the button No.26 provided on panel at SM's office. Reception signals (i.e. 2A, C2A in DN direction and 1C, C1C in UP direction) and shunt signal Nos. SH4A and SH3B are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the siding key "B1" is taken 'OUT' from the RKT provided in the Goods siding location at site

ENGG. SIDING:

The Engg. siding at NRG end of the yard with both side entry is taking off from UP Loop (Line No.4). The entrance point and corresponding derailing switch are coupled and operated by an arc lever at site. Both the entrance points are fitted with hand plunger locks. These hand plunger locks are unlocked by the siding keys "D1" & "D2" released by pressing the button No.28 provided on panel at SM's office. Reception signals (i.e. 1A, C1A in UP direction) and shunt signal Nos.SH4D are electrically interlocked in such a way that these signals cannot be taken 'OFF' if the siding key "D1" & "D2" is taken 'OUT' from the RKT provided in the Engg. siding location at site

2.6 LEVEL CROSSINGS:

(i) There is a 'Special' Class mid-section manned interlocked level crossing gate No. CT-38 situated at Km. 438/13-11 (UP) & 438/12-14 (DN) between JRZ & DNKL stations. Telephone communication is provided between the Gateman and the Cabin Master on duty at West cabin of JRZ station.

(ii) There is a 'Special' Class mid-section manned interlocked level crossing gate No. CT-39 situated at Km. 442/11-9 (UP) & 442/10-12 (DN) between JRZ & DNKL stations. Telephone communication is provided between the Gateman and the SM/DNKL on duty.

(iii) There is a 'C' class manned mid-section non-interlocked level crossing gate No. CT-40 situated at Km. 445/27-25 (UP) & 445/26-28 (DN) between DNKL-SSPR. Telephone communication is provided between the gate lodge and the SM's office of DNKL.

(iv) There is a 'Special' class manned mid-section interlocked level crossing gate No. CT-41 gate situated at Km. 447/17-15 (UP) & 447/16-18 (DN) between DNKL-SSPR. Telephone communication is provided between the Gate lodge and the SM's office of DNKL.

- (v) There is a 'C' class non-interlocked level crossing gate No. CT-43 situated at km 450/19-17 (UP) & 450/16-18 (DN) between DNKL-SSPR. Telephone Communication provided between the gate lodge and SM's office of SSPR.
- (vi) There is a 'C' class non-interlocked level crossing gate No. CT-44 situated at km 451/23-21 (UP) & 451/20-22 (DN) between DNKL-SSPR. Telephone Communication provided between the gate lodge and SM's office of SSPR.
- (vii) There is a 'C' class non-interlocked level crossing gate No. CT-45 situated at km 454/3-1 (UP) & 454/2-4 (DN) between DNKL-SSPR. Telephone Communication provided between the gate lodge and SM's office of SSPR.

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.

4.1. **CRANK HANDLING EMERGENCY OPERATION OF POINTS:**

Crank handle operation is interlocked with the Signaling and interlocking system at this station. Key for Crank handles are normally locked inside the RKT instrument at the Location box, can be taken out only when all the signals leading are in the 'normal' position and the route is not blocked for whatever reasons. Crank handle can be released by operating common 'TRANS' push button and control push button simultaneously. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted at both ends of the yard.

- 4.2. On account of the doubtful operation of any track circuit by a light vehicle including self-propelled vehicle such as motor trolley or shunting engine or tower wagon, indicating the occupancy of track, it is necessary that the Station Master on duty satisfies himself that the said vehicle has cleared the point zone track circuits/Axle Counter by observing the track indications of the track on either side of the crossovers by positively checking the 'entrance' and 'exit' track circuits/Axle Counter are showing occupancy and clearance in accordance with the train movement.

4.3. **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 be informed for attending to this.

5.0. **EMERGENCY OPERATIONS:**

The following are the instructions for emergency operations.

5.1. **CANCELLATION BUTTON AND VEEDER COUNTER:**

For the purpose of emergency operations there is an emergency 'Route cancellation'. There is a 'Veeder counter' for counting emergency operations involving operation of the emergency route cancellation button (provided at the top of the panel). The Station

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

Master on duty must press the emergency route cancellation button and the signal button in accordance with 1.9 confirming to the section for which emergency route release is desired.

An indication will appear indicating that the timer has started operating and after a lapse of 120 seconds, the desired route will be release, provided all other conditions are favorable for route release.

- 5.2. The veeder counter registers the number of such emergency cancellation operations. Station Master on duty should specify the cause for its usage giving the particulars of causes and the time of operation as related to a particular train etc., in the train signal register as well as in a separate register meant for this purpose. The detailed operational instructions are as follows:

5.3. **EMERGENCY OPERATIONS – CANCELLATION OF THE LOCKING OF POINTS NOT RELEASED AFTER THE PASSAGE OF THE TRAIN FOR WHATEVER REASON:**

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

- a) Firstly, it must be ensured that the signal is in the normal position.
- b) Operation as detailed in Para 1.9 to be followed.

6.0 **LOCKING OF RELAY ROOM:**

The relay room should be kept locked with a double lock, which can be opened only after both the keys are used. One key of the lock shall be kept with the Station Master on duty in his custody and the other with maintainer. Whenever required, the key in the custody of Station Master shall be given to the maintainer, after completion of work; the maintainer will return the key to Station Master. The details of the transaction should be properly recorded in the relevant register at the Station duly signed by Station Master on duty and the maintainer concerned.

7.0 **MAINTENANCE OF S & T INSTALLATION and ADHERENCE TO MAINTENANCE SCHEDULES:**

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

- 7.2. 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.

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

- 8.1. 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.

8.2. **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.

8.3. **RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:**

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

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).

9.0. **PROCEDURE FOR CARRYING OUT PLANNED MAINTENANCE WORK:**

Whenever any normal maintenance or special works for major renewals etc., are involved, the Signal and Telecom 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.

10.0 **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.

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

11.2 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.

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

11.4 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.

11.5 Before parting with the Emergency Crank Handle either for attending failures or for maintenance work by Signal maintenance officials, the Station Master on duty will ensure that the reception and departure signals are 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 dispatch of all trains.

11.6 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.

12.0 **SUSPENSION OF LAST STOP SIGNALS:**

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

- 12.1 The Station Master on duty shall not grant 'LINE Clear' unless he has ensured that the lamps of fixed signals which apply to the train are burning. If the signal lights can not be kept burning, the Station Master on duty before giving 'LINE CLEAR' shall initiate action in accordance with the procedure prescribed in GR 3.61 to 3.72 and relevant SRs vide GR 3.49(4).

13. **NORMALISATION OF THE BLOCK AXLE COUNTER AND OF BLOCK WORKING BY RESETTING FEATURE:**

- 13.1 Digital Axle Counters are provided on both Up and Down line Block Sections between DNKL-SSPR and DNKL-JRZ.

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

- 13.3 Even after completion of reset operation, LVCD Axle Counter will show clear only if next train is passed. The next train is to be piloted.

- 13.4. 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.

- 13.5. Reset arrangements are provided in the reset box in the SM's office for sections DNKL-SSPR and DNKL-JRZ 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 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.

13.6. **RESETTING OF DIGITAL AXLE COUNTER WHEN FAILED(FOR SECTION DNKL-SSPR and DNKL-JRZ)**

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 appraise the sending station through telephone for resetting.

Before resetting 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 of sending end 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 (GREEN) and power on indications (YELLOW) are provided in the reset box.

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

- a. Insert SM's LV reset key, turn right.
- 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.

(A.K.JENA)
DSTE/KUR

(B.PANDA)
DOM/KUR

- 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 if in the Train Signal 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 'G' will appear on the panel and the concerned Block working will be normalized.

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

14.0 **ANALOG AXLE COUNTER and DESCRIPTION OF RESETTING EQUIPMENT (WITH STATION YARD):**

UP Loop, Common loop and point zones are is provided with analog axle counters and is grouped as L4AXT, L1AXT, 26AXT1 & 26AXT2.

Whenever a particular Axle counter zone is occupied or failed, a visual 'RED' indication appears on the panel at station and when verified for clearance and initiated for resetting, an 'YELLOW' indication appears in the panel and when once the resetting is completed, then appears 'GREEN' indication and the 'YELLOW' indication extinguishes. A panel with indications, Veeder counter for each Axle counter zone, SM's reset key common along with one individual push button for loop lines/point zones for resetting is installed at station to indicate the occupation/clearance of track circuit/Axle counters of the full yard.

15.0 **PROCEDURE FOR RESETTING IN THE EVENT OF FAILURE OF AXLE COUNTER (WITH IN STATION YARD):**

When Common loop/ UP Loop line/point zones failed 'RED' indication will appear in the SM's panel. SM on duty shall then physically verify the particular section. After physical verification if there are no obstructions over the line he shall advise the on duty TPM to open the line/zone Verification box located by the side of the track and press the button. One 'YELLOW' indication appears in the panel. He shall then press line nominated button. The 'RED' and 'YELLOW' indications will disappear from the panel and 'GREEN' indication will appear.

The Veeder Counter provided on the panel will record next higher number indicating the number of such operations for the particular axle counter section. If 'GREEN' indication does not appear on the reset panel and 'RED' indication continues to appear, the sectional ESM/JE(S)/SE(Signal), may be advised that the concerned Axle Counter has failed and to attend for rectification.

The SM shall pilot the trains if any, till the rectification.

Separate register shall be maintained in the Station to record every operation of resetting and the number in the veeder counter in addition this should be recorded in TSR. While taking over/handing over duties the SM shall record in the TSR the number displayed in the veeder counter and shall acknowledge the same.

16.0 **SIGNAL LIGHTS:**

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(B.PANDA)
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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.

17.0 **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 G and SR 4.01.01 and 4.01.02.

18.0 **TELECOMMUNICATIONS:**

- a) The Station is connected to RJGR-TLHR-ANGL Control Circuit.
- b) Telephone attached to SGE type Lock and Block Instruments for sections SSPR-DNKL and DNKL-JRZ.
- c) VHF set is provided at the station.
- d) Railway Auto telephone is provided at SM's office.
- e) BSNL land phone is provided at the station
- f) Telephone communication is provided between Station Master on duty and both end Crank Handle Locations.
- g) Telephone communication is provided between Station Master on duty and both goods siding & Engg. siding Locations.
- h) Telephone attached to L.C. Gates at Km. 442/11-9 (UP) & 442/10-12 (DN), at Km. 445/27-25 (UP) & 445/26-28 (DN) and at Km. 447/17-15 (UP) & 447/16-18 (DN).
- i) Telephone is provided between DN IBS at Km. 451.308 and SM/DNKL.

NOTE

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

SWR OF DNKL

APPENDIX-'C'

ANTI COLISION DVICE (RAKSHA KAVACH)

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STATION SUPERINTENDENT (IN-CHARGE):

- (i) He is responsible for the efficient discharge of duties by different members of staff at his Station. (General Rules 5.01).
- (ii) He shall ensure that the working of the Station is being carried out in strict accordance with the SWR, current rules, procedures and instructions.
- (iii) Providing prompt and courteous service with utmost safety and security of passengers and employees.
- (iv) Availability, helpfulness and good conduct of station staff & public.
- (v) He shall be responsible for general up-keep of the station.
- (vi) He shall be responsible for keeping the safety and operating literature including circulars, pamphlets, gazette etc. up to date and these must be explained to the staff working under him and got noted by them.
- (vii) He shall be responsible for maintaining Accident register and Accident charts and keeping these up to date.
- (viii) He shall promptly attend all accidents, assume charge of the site to and assist in relief measures ensuring prompt evacuation of injured & stranded passengers. He shall take note of all the information available and protect the clues/evidence, which may be helpful in the enquiry. He shall intimate the control office at regular interval for current information and ask for the required assistance i.e., Relief Train, Medical van etc. He shall investigate yard accidents, obtain statements of the staff responsible and submit his report with conclusions and joint note to the Divisional office.
- (ix) He shall ensure that fire fighting equipments at the station such as fire extinguisher, fire buckets etc. are in fine fettle and ready for use.
- (x) He must ensure that the essential Safety equipments at his station are the same, complete and, if there is any deficiency should be made good without delay.
- (xi) He shall conduct night and surprise inspections to check the alertness of staff and working of signals, and points and visibility of the signals.
- (xii) The Station Master in charge at a station shall inspect his station daily with a view to ensure efficient working of-
 - All public facilities including, fans and lights.
 - All equipments being in efficient working order. Deficiencies must be promptly rectified or recorded in Petty Repairs Book.
 - Safe and efficient working of trains.
 - Central Panel.
 - Drinking Water availability.
- (xiii) He shall see that Train Signal Register, Station Diary, Inspection Note Book, reference books and other station records are properly maintained.
- (xiv) 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. He is responsible for maintaining SWR, other Rule Books and Assurance Register up to date.
- (xv) He is responsible for booking 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 General and Subsidiary Rules and GR 5.01 to 5.08 with relevant Subsidiary Rules, Chapter-XXII of Operating Manual.
- (xvi) He shall see that law & order and discipline in the station area is maintained with the help of GRP and RPF and that all staff appears on duty properly are with proper uniform and in time.
- (xvii) He shall see that public complaints in respect thereof are attended to and preliminary reports of the public complaints are submitted to Sr. DCM/KUR. He shall ensure that the BWM 2.09 (e) is complied with daily. He is completely responsible for the total function of system at the station and ensures smooth flow of traffic with least possible detention.

- (xviii) SS (In-charge)'s special attention is drawn to the GR 5.01 to 5.23 where details are indicated. He shall see that all station earnings, periodical returns and statements etc are sent in time by the staff responsible for them.
- (xix) He shall see that all records are properly maintained.
- (xx) He is responsible for the general supervision of the station in respect of safe and timely running of the trains to and from the station and for the supervision of commercial and operational work of the station yard.

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 (In-Charge) is satisfied that the concerned staff is competent for the post. No Railway servant unless duly examined and certified shall be allowed to work the points and signals. The SS (In-Charge) 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 (In-Charge) 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 (In-Charge) under lock and key by maintaining one register for this purpose.

- 1.3 The SS shall test the working of the reception signal and emergency cross overs 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. **SS/SM/ASM:**

He shall work in train passing duties and booking of traffic, coaching returns and other statements shall be prepared and submitted by him in time. The SS/SM/ASM on duty shall record in the diary the condition of all the running lines, siding, the caution orders in force at the time of handing over charge. These entries shall be countersigned by the SS/SM/ASM coming on duty and taking over charge. The SS/SM/ASM on duty shall ensure the clearance of the line of the yard by physical verification while taking/handing over charge. The SS/SM/ASM 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 (In-Charge) all irregularities and accidents in

(B.PANDA)
DOM/KUR

course of his shift duties. During the absence of SS (In-Charge), the duty of SS (In-Charge) will devolve on SS. His special attention is drawn to Chapter-II of G & SR 2000 and GR 5.01 to 5.08 with relevant SRs as an assistant to SS (In-Charge), given to him by the SS/SM/ASM.

3. TRAFFIC POINTSMAN/TOKEN PORTER:

He shall work under the instructions of SS (In-Charge)/SS/SM/ASM on duty and follow the GR 02.05 to 2.11 and other relevant rules laid down in GR and SR.

- (i) He shall obey all lawful orders of the SM on duty or official in-charge supervising the shunting during the course of shunting operations including coupling or uncoupling of vehicles of wagons.
- (ii) He shall exhibit danger signal to the official supervising the shunting should the crossing be fouled during the shunting operation.
- (iii) He shall pilot the trains in case of abnormal working and when ordered by the SM on duty.
- (iv) He shall be in proper neat and clean uniform while on duty.
- (v) He shall come on duty after taking complete rest and shall not perform duty under the influence of liquor, drugs, or intoxicants.
- (vi) Neither shall he absent himself from duty nor shall he exchange his duty without prior permission of his superiors.
- (vii) He shall not leave his duty unless properly relieved or authorized by his superiors.
- (viii) He shall set the points properly in non-interlocked yard and man them for all shunting movements and shall not interfere with the points while the vehicles are standing and, or passing over them.
- (ix) He shall be responsible to see that fouling marks are kept clear after completion of shunting.
- (x) He shall always commence his duty equipped with hand signal lamps during night and flags during day.
- (xi) He shall verify the correct setting of route before delivering required papers to the loco pilot either through taking 'OFF' the relevant shunt signal or by personal observation.
- (xii) In case of track/axle counter failure he shall assist the SM to ascertain the clearance of line.
- (xiii) Protection of line in an emergency
- (xiv) Handing over caution orders/or any other line clear authorities to the Loco Pilot and guards of the trains.
- (xv) Attending off side to observe safe running of run through trains at stations and correct display of hand signals and ringing the station bell.
- (xvi) Securing of vehicles, as directed, protection of vehicles of a train.
- (xvii) Being conversant with the layout of the yard and compliance of rules relating to shunting operation.
- (xviii) Observing General Rules 5.13 to 5.21 and relevant subsidiary Rules during shunting.
- (xix) Cleaning and lighting of hand signal lamps if required and oiling of clamps and padlocks if necessary.
- (xx) 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.
- (xxi) Cleaning and Dusting of SM's office room furniture and equipments Office.
- (xxii) Working as fog signal man as and when required.
- (xxiii) Filling up the fire buckets with sand.
- (xxiv) Getting train intact arrival register (T/1410) signed by the Guard as and when required.
- (xxv) Any other duties entrusted to him by the SS (In-Charge)/SS/SM/ASM on duty from time to time.

GENERAL

1. A set of flags and LED based battery operated lamps flashing signal lamps 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 Pilot 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.	Battery operated LED based hand signal flashing lamps	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	Iron – 04 Wooden - 04
7.	Fire and Sand Buckets.	4
8.	Reminder Collar	8
9.	Motor Trolley on line label.	3
10.	Fire extinguisher	2 (DCPT).
11.	First Aid Box	1
12.	Stretcher	1
13.	Block Suspension Board	3
14.	Power Block Collar	2

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

1.0 MID-SECTION OUTLAYING SIDING:

There is no mid-section siding on either end of block section.

2.0 INTREMEDATE BLOCK STOP SIGNALS ON DHENKANAL-SADASHIBPUR SECTION:

2.1 DESCRIPTION:

Intermediate Block Signal (IBS) at Km. 450.752 on UP line and at Km. 451.308 on DN line of DNKL-SSPR Section are provided bifurcating UP and DN lines by means of Intermediate Block Signaling with Electronic Axle Counters and trains are worked under Absolute Block System in accordance with General Rule No. 1.02 (7), (31) & (32), 3.11, 3.42, 3.75, 8.01 (1) (a), 8.01 (2) (a).

2.2 SIGNAL DIAGRAM:

The Station Working Rule diagram no. SI/WRD/21058 based on CSTE/East Coast Railway's Signal Interlocking Plan No. SI/21058, ALT-D shows the layout of Intermediate Block Signals, Distant Signal with all signaling features and gradients etc.

2.3 TELEPHONE COMMUNICATION:

Telephones fitted to Intermediate Block stop Signal Posts with socket provided for communications to the SM in rear i.e. SM/SSPR in case of UP line and SM/DNKL in case of DN line for the IBS between DNKL-SSPR section. The telephone on the Intermediate Block Stop Signal post is provided with two press buttons. The right hand side button is to be pressed by the Loco Pilot for calling the attention of the Station Master of the Station in rear and left hand side button is to be pressed for speaking and released for hearing.

2.4 THE FOLLOWING SIGNALS ARE PROVIDED ON UP AND DN LINES AT IBS:

- (i) IB Home.
- (ii) IB Distant.

Legend Boards with legend "Backing is not permitted beyond this point" are provided 400 meters beyond UP and DN Intermediate Block Stop Signals on DHENKANAL-SADASHIBPUR Section.

2.5 DETAILS OF BLOCK SECTIONS ON SECTION: (DNKL-SSPR SECTION)

The UP and DN Block sections between DNKL-SSPR are split into two portions namely (i) Rear Section (ii) Advance Section. Each constituting of separate block section by provision of Intermediate Block Signaling which are controlled and operated by block station i.e. SSPR in case of UP line and DNKL in case of DN line on DNKL-SSPR section vide GR 1.02 (31) and (32).

2.6 INTERLOCKING OF SIGNALS:

- i) The Intermediate Block Stop Signal is interlocked with Lock and Block instrument in such a way that the same cannot be taken 'OFF' unless "Line Clear" has been received from block station in advance of the Intermediate Block Stop Signal with the needle of the Lock and Block Instrument indicating "Line Clear" position.
- ii) The DN Advanced Starter of DNKL is Interlocked with Axle counter in such a way that the same cannot be taken 'OFF' unless the block section in advance of the signal controlled by axle counters is clear and the DN IBS section on SM panel shows "clear" indication.

- iii) Track circuits are provided beyond Intermediate Block Stop Signals and Advanced Starter Signals in order to restore these signals to their normal positions automatically when a train passes over them and the IB signals cannot be taken "OFF" until "Line Clear" has been received for a subsequent train.

2.7 CLOSURE OF INTERMEDIATE BLOCK SIGNAL:

In the event of suspension of Lock and Block Instrument or failure /suspension of intermediate Block Home or failure/suspension of Advanced Starter or Axle counter panel/mechanism, failure of track circuits of the Intermediate Block Stop Signal on concerned section shall be suspended, then Intermediate Block Signal concerned shall be deemed to be closed and sections between the station on either side of the Intermediate Block Post concerned shall be treated as one Block section. Refer to GR 3.70, 3.75 and 14.14. The authority to pass the Advanced Starter and Intermediate Block Stop Signal concerned at 'ON' shall be issued by the SM immediately in rear of such signal.

2.8 DESCRIPTION OF AXLE COUNTERS AND PANEL INDICATIONS PROVIDED AT DNKL IN CONNECTION WITH IBS FOR DHENKANAL-SADASHIBPUR SECTION:

2.8.1 AXLE COUNTING SYSTEM:

Axle Counters are provided in the following sections:

- (a) IB SECTION SSPR- DNKL UP LINE: A pair of Digital axle counter is provided on UP line to monitor the IB section from Advanced Starter Signal No. 15 of SSPR to 400 m beyond the Up IB Home signal No. 14 of SSPR.
- (b) IB SECTION DNKL-SSPR DN LINE: A pair of Digital axle counter is provided on DN line to monitor the IB section from Advanced Starter Signal no.14 of DNKL to 400m beyond DN IB Home signal No. 16 of DNKL.
- (c) A pair of digital axle counter is provided between SSPR-DNKL on UP line one just beyond UP IB Home signal No. 14 of SSPR in 14T track circuit and another just beyond UP Home signal of DNKL to monitor LV section.
- (d) A pair of digital axle counter is provided between DNKL-SSPR on DN line one just beyond DN IB Home signal No. 16 of DNKL on 16T track circuit and another on track 2T2 just beyond DN Home signal of SSPR to monitor LV section.

2.8.2 IB PUSH BUTTONS/PANEL INDICATIONS PROVIDED IN THE CENTRAL PANEL AT DNKL:

2.8.2.1 IB PUSH BUTTONS ON PANEL:

i) DN TRAIN RUN AWAY MUTING BUTTON:

This is to be operated for acknowledging and stopping the ring of the buzzer in case of DN train passing DN IBH (SIGNAL No. 16 of DNKL) at 'ON' position.

ii) DN TRAIN RUN AWAY AUDIBLE BUZZER:

This will ring when "DN train run away" indication appears on the panel.

iii) DN TRAIN ENTERING LOCK & BLOCK SECTION BUZZER:

This ring with the passage of every DN train past DN Intermediate Block Stop Signal and operates track circuit beyond it indicating that the DN train has entered the Block Section between DN Intermediate Block Stop Signal and SSPR.

- iv) **DN TRAIN ENTERING LOCK & BLOCK SECTION BUZZER MUTING PUSH BUTTON:**
This is to be operated for acknowledging the passage of DN trains past DN Intermediate Block stop Signal on DN line.
 - v) **ACKNOWLEDGEMENT BUTTON FOR DN LINE:**
This is to be operated after receipt of permission from SM/SSPR for resetting IB section axle counting system on DN line.
 - vi) **DN IB SECTION RESET KEY:**
This is provided to control the re-setting the axle counting system of DN IB section and to be kept in the personal custody of the SM/DNKL on duty.
 - vii) **DN IB SECTION RESET PUSH BUTTON:**
This is to be operated by SM for re-setting the axle counting system of DN IB section between DNKL-SSPR on the DN line.
 - viii) **DN IB SECTION RE-SET VEEDER COUNTER:**
This registers the next higher number every time the reset push button is operated for re-setting the DN IB section axle counting system on DN line. Relieved and incoming SM should jointly record the number on the counter and sign in the Train Signal Register while taking over charge.
 - ix) **UP TRAIN RUN AWAY BUZZER MUTING PUSH BUTTON:**
This is to be operated for acknowledging the passage of UP trains past UP intermediate Block Stop Signal no.14 on UP line at 'ON' position.
 - x) **UP TRAIN RUN AWAY AUDIBLE BUZZER:**
This will ring when "UP train run away" indication appears on the panel during UP train pass UP IB stop signal no.14 at "ON".
 - xi) **PERMISSION – BUTTON FOR IB SECTION of UP LINE:**
This is to be operated for granting permission to SM/SSPR for resetting the UP IB section axle counting system on UP line.
 - xii) **PERMISSION GRANTED VEEDER COUNTER FOR IB SECTION of UP LINE:**
This registers the next higher number every time Permission button is operated for resetting axle counting system on UP line. Relieved and incoming Station Master should jointly record the number on the counter and sign in the Train Signal Register while taking over charge.
- 2.8.2. IB INDICATIONS ON SMs PANEL**
The following luminous indications are displayed on the SMs panel:
- i) **DN train running away:** "DN train running away" indication appears only in all cases of a train passing DN Intermediate Block Stop Signal at 'ON' position.
 - ii) **DN IB section Resetting Permission received from SSPR:** "Permission received from SSPR" appear when acknowledgement button is pressed after permission is received from the SM /SSPR.

- iii) **DN IB Axle Counting Section occupied in RED:** DN Axle counting section occupied in “RED” will appear when the section DN Advanced Starter to DN Intermediate Block Signal section is occupied by a train.
- iv) **DN IB Axle Counting section clear in GREEN:** DN Axle counting section clear in “GREEN” will appear when the section DN Advanced Starter to DN Intermediate Block Stop Signal Section is clear.
- v) **DN Advanced Starter track circuit occupied/failed in RED:** DN Advance Starter track circuit when occupied/failed “RED” indication will appear and when the track circuit is clear/working no indication will be there.
- vi) **DN Intermediate Block Stop Signal track circuit occupied/failed in RED:** DN Intermediate Block Stop Signal track circuit when occupied/failed “RED” indication will appear. When the track circuit is clear/working, no indication will be there.
- vii) **DN train entering Lock and Block section:** “DN train entering section” indication appears in all cases of DN train passing DN IBS track circuit.
- viii) **UP train running away:** “UP train running away” indication appears only in case of a train passing UP Intermediate Block Stop Signal no.14 at ‘ON’ (When the section in advance is occupied).
- ix) **Permission granted to SSPR:** “Permission granted to SSPR” indication appears when permission granted to SSPR button is pressed for resetting UP IB section axle counting system on UP line.
- x) **UP train entering Lock and Block Section:** “UP train entering section” indication appears in all cases of an UP train passing UP IBS track circuit.
- xi) **Block Handle free:** “Block Handle Free” indication appears when an UP train arrives completely within the station section. The “Block Handle” then becomes free and the instrument can be normalized.
- xii) DN Intermediate Block Stop Signal at ‘ON’ in RED.
- xiii) DN Intermediate Block Stop Signal at ‘OFF’ in GREEN.
- xiv) DN Intermediate Block Distant Signal at “ON” shows YELLOW indication.
- xv) DN Intermediate Block Distant Signal at “OFF” shows GREEN indication.

NOTE:

Normal aspect of Intermediate Block, DN Distant Signal is YELLOW. The Distant signal is provided with “P” Marker and its higher aspects are controlled by DN Intermediate Block Stop Signal. When the DN Intermediate Block Stop Signal is GREEN, DN Intermediate Block Distant Signal will be “GREEN”.

2.8.3 PROCEDURE TO BE FOLLOWED FOR RESETTING THE AXLE COUNTING SYSTEM ON DN LINE BETWEEN DNKL AND IBS SIGNAL IN CASE OF ITS FAILURE (DNKL-SSPR SECTION).

On occupation of DN Advanced Starter track circuit, luminous DN IB section axle counting section occupied “RED” indication will appear on the panel at SM/DNKL. On occupation and clearance of the train over track circuit provided 400 meters

beyond DN Intermediate Block Stop Signal "Axle Counting Section Clear" indication in "GREEN" will appear on the panel. In the event of unequal count of axles or failure of axle counting system, such Green indication will not appear but continue to display "Axle counting section occupied" indication in "RED" indicating the failure/occupation of axle counting mechanism. In the event of such failure, Intermediate Block Signaling and Lock and Block Working between DNKL-SSPR on the double line shall be suspended and the Intermediate Block Post shall be deemed as closed and the section between DNKL-SSPR on either side of the Intermediate Block Post shall be treated as one block section vide GR 14.14 until the axle counting system is reset in the following manner. The same procedure may be adopted for resetting the axle counting panel after passage of motor trolley/tower wagon.

NOTE:

The failure of axle counting system should be recorded in the Train Signal Register, SM's Diary & failure register at SMs office at DNKL & SSPR.

2.8.4 **PROCEDURE OF RESETTING AXLE COUNTING SYSTEM FOR DN IBS SECTION:**

On complete arrival of the train (after the passage of which the axle counting system failed) at the block station in advance i.e. SSPR, the SM of SSPR and DNKL must satisfy themselves under exchange of messages supported by Private Numbers that the DN line between DNKL and SSPR is clear of all obstructions.

On being advised by SM/DNKL, SM/SSPR should press the "Permission button" on his panel. The Veeder Counter on the panel at SSPR registers the next higher number and "Permission received from SSPR" flashing indication appears on the SM's Panel at DNKL. The SM/DNKL shall press the acknowledgement button on his panel as soon as he receives "Permission Receipt" indication. The flashing indication becomes steady. SM/SSPR should keep the permission button pressed for about 10-15 seconds. After that the following procedure to be followed by SM/DNKL:

- i) Insert SM's DN IB section reset key, turn right.
- ii) Press DN IB section reset button provided on the panel.
- iii) Release SM's DN IB section reset key and reset button.
- iv) Turn left the SM's DN IB reset key and removes it.
- v) The DN IB section Axle counting system reset indication (Green) glows on the panel.
- vi) The counter reading increases by one count after a gap of 5 seconds approximately.
- vii) The counter reading should be recorded.
- viii) One train is to be piloted 'IN' the section to make the system normal.
- ix) After piloting of one train "Axle counting section clear" indication will appear on the panel of the Station Master's Office indicating that the axle counting system is reset. Now, Intermediate Block Signaling and Lock and Block Working on DN line may be restored.

The readings on the DN IB section Reset Veeder Counter on the Station Master's panel in the SMs. Office should be recorded in the Train Signal Register mentioning the reasons for the use briefly with timings for every operation.

A Register showing the particulars of resetting operations as per the following perform should be maintained in the Station Master's Office/DNKL in which the details of resetting operations should be recorded by the SM On duty.

PROFORMA:

Date and time	Train No. Last entered the block section	Private No. of the station ahead for complete arrival of the train under col.2	Veeder Counter number before/after resetting operation is completed.		Train No. entering the block section immediately after the resetting operations.	Remark	Signature of the Station Master on duty.
			Before resetting	After resetting			
1	2	3	4	5	6	7	8

If there is any movement of non-insulated Trolley/Material Trolley/Motor Trolley past the Intermediate Block Stop Signal at 'ON' position, "Train run away" indication will appear at the dispatching station and the system will fail.

Even after adopting the procedure laid down as above, if the axle counting system is not reset, the Lock and Block Working and Intermediate Block Signaling on the concerned line should be suspended, treating the entire block section between DNKL & SSPR and either side of Intermediate Block post as one block section vide GR 3.75 (4) and 14.14.

2.8.5 PROCEDURE OF RESETTING AXLE COUNTING SYSTEM FOR UP IBS SECTION:

On being advised by on duty SM /SSPR, SM / DNKL shall press the UP IB "Permission button" on his panel. The Veeder Counter at SSPR will register the next higher number and "Permission granted to SSPR" indication appears on the SM's Panel at SSPR. SM/SSPR should keep the permission button pressed for about 10-15 seconds. After that the procedure for resetting of UP IB section as mentioned in the SWR of SSPR is to be followed.

2.9 PROCEDURE TO BE FOLLOWED IN THE EVENT OF A TRAIN RUNNING AWAY (PASSING INTERMEDIATE BLOCK STOP SIGNAL AT 'ON' POSITION):

Whenever a train passes the Intermediate Block Stop Signal at 'ON' without being so authorized by the Station Master of rear station over telephone, the Station Master of the rear station on receipt of the audible/visual indication must inform the Station Master of the Advance Station about the entry of the train passing the Intermediate Block stop at 'ON'.

The Loco Pilot of the train on his arrival at the advance station must report the incident of his passing the Intermediate Block signal at 'ON' and also record in writing the reason for his doing so.

On receipt of written declaration from the Loco Pilot that the IBS telephone is defective, the Station Master of the advance station will inform the Station Master of the rear station about the matter and also the S&T staff for necessary rectification of the IBS telephone.

On receipt of the written declaration from the Loco Pilot of runaway train that the IBS telephone is defective and after advising the S&T staff for necessary rectification the resetting should be done to normalize the system as per proper procedure on account of train passing the IBS at ON and the Block instrument also should be normalized in the same way since the runaway train has fully arrived at the advance station. The SM of the advance station before giving permission to the station in rear for resetting the axle counting system should ensure that the train has arrived complete by verifying the last vehicle indicator affixed in rear of the last vehicle of the train or by getting the complete arrival register signed by the guard.

In case of failure of the Loco Pilot of the "Run Away train" to report the failure of the telephone, the incident should be treated as breach of Block rule in terms of rule no 6.16 (a) (iv) and suitable action to be taken. In such case Intermediate Block signaling and Lock and Block instrument must not be resumed by Block Signal Inspector without permission of ASTE/DSTE.

While complying with the instruction contained in GR 3.75 (3), when the Loco Pilot has to pass the IBS signal at "ON" after waiting for 5 minutes at the signal, he shall proceed cautiously preparing to stop short of any obstruction at a speed not exceeding 15 KMPH when view ahead is clear and 8 KMPH when view ahead is not clear due to curve, obstruction, rain, fog or any other cause until he reaches the foot of the First stop signal of the Block station in advance obeying any gate stop signal in between the IBS signal and the First stop signal of the Block station in advance as per rules and even if the signal is "OFF" the Loco Pilot shall continue to look out for any possible obstruction and stop short of the same and will act upon its indication only after he has reached it. Before starting, the Loco Pilot shall sound one long whistle, which may be repeated as necessary and shall then start his train on receipt of Guard's signal. Thereafter he shall exchange signals with the guard.

DN train run away indication or UP Train run away indication as the case may be will appear on the SM's panel.

DN train run away Buzzer or UP Train run away Buzzer as the case may be will Ring which can be silenced by pressing DN/UP train run away muting push button on the SM's panel.

3.0 RESETTING OF UP LV/DN LV SECTION DIGITAL AXLE COUNTER WHEN FAILED (FOR SECTION DNKL-SSPR).

After complete arrival of train, if the Last vehicle axle counter of the section does not clear or Last vehicle Axle counter section free indication (G) does not appear in the panel, the receiving station SM shall apprise 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.

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

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

- A. In case of failure of UP LV section, on being advised by SM/DNKL, SM/SSPR inserts the Panel key and presses the "UP LV Permission granted to DNKL button" on his panel. The Veeder Counter on the panel at SSPR registers the next higher number and UP LV "Permission received from SSPR" flashing indication appears on the SM's Panel at DNKL. The SM/DNKL shall then press the acknowledgement button on his panel as soon as he receives "Permission Receipt" indication from SSPR. The flashing indication becomes steady. SM/DNKL shall then Insert SM's LV reset key and 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. The counter reading increases by one count after a gap of 5 seconds approximately.
- F. The counter reading should be recorded.
- G. One train is to be piloted in the section to make the system normal.
The SM on duty shall record in it Train 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.
- H. If the axle counters functioning properly now, then Block Section cleared indication 'G' will appear on the panel and the concerned Block working will be normalized.
- I. If the LV 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.
- J. In case of DN LV, resetting permission will be given by SM/DNKL to SM/SSPR and SM/SSPR will follow the procedure as given in "B" to "I".

4.0 HALT STATION:

- A]. Dandimal (Code: DN DL) is situated at Km. 450.9 from HWH between Dhenkanal and Sadasibpur.
- B]. Shyamacharanpur (Code: SCPR) is situated at Km. 438.5 between Dhenkanal and Joranda Road.

5.0 DK STATION:

NIL