

EAST COAST RAILWAY
WALTAIR DIVISION

STATION WORKING RULES OF TIKIRI [BROAD GAUGE]

Date of Issue: -

Date brought in force: -

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

NOTE: -

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

1. STATION WORKING RULE DIAGRAM:

(i) The Station Working Rule diagram no: SI/WRD/23124 Alt'D'

(ii) CSTE/East Coast Railway Signal Interlocking Plan No: SI/23124 ALT 'D'

(iii) Date up to which corrected:

2. DESCRIPTION OF STATION:

2.1 GENERAL : LOCATION:

a) Name of the station	:	TIKIRI
b) Class of station	:	'B' class, Std-IIR
c) Section	:	Koraput - Rayagada
d) Double line/Single line	:	Single line
e) Electrified/Non Electrified	:	Electrified
f) Gauge BG/MG/NG	:	BG
g) Railway	:	East Coast Railway
h) Route	:	'D' Special
i) Situated at	:	Km 83.065
j) Reckoned from	:	Koraput
k) Number of cabins	:	Centrally operated Domino type full-fledged panel.

2.2. BLOCK STATIONS, IBH. IBS ON EITHER SIDE AND THEIR DISTANCE AND OUT LYING SIDINGS:

Sl. no	Adjacent Block - section	Distance	Direction
a	RAULI (RUL)	12.185 km	RGDA end
	SINGARAM (SGRM)	8.11 km	KRPU end
b	Provision of IBS	Nil	
c	Automatic signal	Nil	
d	DK station/Outlying sidings	Nil	
e	Passenger halt	Nil	

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2.3 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' ends
TKRI-RUL DN Direction	From DN advanced starter signal no. 12 of TKRI	DN home signal of RUL.
TKRI-SGRM UP Direction	From UP advanced starter signal no.11 of TKRI	UP home signal of SGRM.

2.4 GRADIENTS:

a) From the centre of the station building towards SGRM:

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
Ch: 0.000	Ch: 800M	800M	1 in 2000 raising
Ch: 800M	Ch:881.6M	81.6M	1 in 1200 falling
Ch: 881.6M	Ch: 1303M	421.4M	Level
Ch: 1303M	Ch: 2215M	912M	1 in 100 raising
Ch: 2215M	Ch: 2350M	135M	Level
Ch: 2350M	Into section	-----	1 in 200 falling
Ch: 0.0000 from UAIL siding	Ch: 1240M from UAIL siding	1240M	Level
Ch: 1240M	Ch: 800M	440M	1 in 550 falling
Ch: 800M	Towards station	----	1 in 2000 falling

b) From the centre of the station building towards RUL:

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
Ch: 0.000	Ch: 862.225M	862.225M	1 in 2000 falling
Ch: 862.225M	Ch: 5985M	5122.775M	1 in 100© falling
Ch: 5985M	Into section	----	1 in 260 falling

2.5 (A) LAY OUT:

Sl no	Running/Non Running line	Electrified/Non Electrified
1	Route-1 (1 st loop)	Electrified
2	Route-2 (Main line)	Electrified
3	Route-3 (2 nd loop)	Electrified

(B) PLATFORMS:

One low level passenger platform measuring 244MX6.4M is provided on Line no.1 (1st loop).

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2.5.1 DIRECTION OF MOVEMENT & HOLDING CAPACITY:**(a) DIRECTION OF MOVEMENT:-**

The trains coming from Rauli end and proceed towards Singaram are UP trains and the trains coming from Singaram end and proceed towards Rauli are DN trains.

HOLDING CAPACITIES:

Line no	Designation	CSL	Electrified/Non Electrified	CSL starting & Destination
Line No 1	1 st Loop	774 Meters	Electrified	From Starter to Starter
Line No 2	Main line	731 Meters	Electrified	From Starter to Starter
Line No 3	2 nd loop	744 Meters	Electrified	From Starter to Starter

2.5.2 NON RUNNING LINES AND THEIR CAPACITY:**(A) UAIL INPLANT YARD:**

UAIL siding is taken off from line no.1 towards Singaram end and is isolated by derailing switch-30 at CH:379.12M towards siding and it is isolated by point no.26 of sand hump towards station. The UAIL inplant yard is about 9.23 km from station yard. Shunt signals SH-5, SH-7, SH-9 are provided at UP starter signal for shunting purpose towards siding and also SH-14 is provided for shunting on all three lines from siding.

B. GOODS SIDING:

One Goods siding is taken off from line no.1 at RUL end and is isolated by derailing switches and is measuring 111M (GJ-GJ). The entrance point and derailing switch are operated individually by arc levers in succession with single entry at a time. Hand plunger locks fitted at the entrance point unlocked by key 'P' released from EKT provided in location box through control no.27 from panel. When control 27 is transmitted from panel, S-1/

C-1, SH-3, S-8, S-9, SH-9, S2/C2, SH4, SH-14 signals for line no1 will be locked in their normal position.

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT:

NIL

2.6 LEVEL CROSSINGS:

1. C Class Engg. LC gate is situated between TKRI-SGRM at KM 78/13-16 (KR-13)

2.C class Engg LC gate is situated between TKRI-RUL at KM/85/16-17(KR-14)

3. SYSTEM AND MEANS OF WORKING:-**(i)System of working: Absolute block system:**

Trains are worked under Absolute block system in accordance with GR 7.01(1) (a), 8.01(1) (a) &(c), 8.01(2) (b), 8.03(2) (a), (b), (c) (ii), 14.01 to 14.07, 14.08(b) (iv), 14.09 to 14.13 and BWM chapter-IV part I.

(ii)Block instruments:

Single line Diado type Tokenless block instruments are provided for block sections TKRI-SGRM and TKRI-RUL vide GR 14.01(a) and the 'OFF' aspect of the last stop

signal is the authority for the Loco pilots of all trains to enter into the block section vide GR 14.08(b) (iv).

(iii) Co-operative/Non Co-operative: Co-operative.

(iv) Provision of block telephone: Telephone attached to block instrument connecting the adjacent block stations concerned.

(v) Custody of keys of block instrument: Block instrument is provided with double locking. One key will be with SM and other key will be with S&T maintainer.

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING:

- 4.1.0 a) Standard of Interlocking: This Station is provided with Standard-II® Panel Interlocking.
- b) Type of signals: Multiple Aspect Colour Light Signals. The aspects and indications of the MACLS is governed by GR.3.08 (4) (b).
- c) The Station is provided with central Panel Interlocking (PI). All signals and points are electrically operated from the central Panel provided at SM's Office.
- d) Method of operation: Central Panel is provided in the Station Master's office to electrically control all signals and points.
- e) Provision of axle counter/Track circuits on running lines:

Track circuits are provided in the yard as 1AT, 1T, 12AT, 21T, 23T, L₁T₁, L₁T₂, L₁T₃, L₂T₁, L₂T₂, L₂T₃, L₃T₁, L₃T₂, L₃T₃, 24AT, 24BT, 22T, 28AT, 28AT₁, 28BT₁, 28BT, 11AT, 2T and 2AT. Axle counters are provided for TKRI-SGRM (BAXT) and TKRI-RUL (BAXT). Normally the panel is blank except point and Block section indications for the above track circuits/ Axle counters are available on Panel at SM's office. When a signal is cleared the route indication 'Yellow' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

- f) Calling on signals/IBS: Calling-on signals are provided below Home signals (i.e. in both Up & Down directions) as per GR.3.13 (1) (b), (2) (3) (4) & (6) (b).
- g) IBS is not provided at this station.
- h) The control Panel is provided with SM's key which shall always remain in the custody of the Station Master on duty for control of points, signals and crank handles control etc in terms of SR 3.36.03(a).

i) CRANK HANDLE:

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. CH-1 controls 21A/B, 23A/B; CH-2 controls 22A/B, 24A/B; CH-3 controls 26, 30; CH-4 controls 28A/B.

These crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the EKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken only when all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle can be released by pressing common 'TRANS' push button

and concerned Crank handle control push button simultaneously. When the keys are taken out no signal can be taken 'OFF' over the particular route on the points nominated by the crank handle.

This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points. The failure of motor operated points must be ensured by physical checking that there is no obstruction. SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency

Crank handle register shall be maintained by the SM on duty at the station as per Para 20.06(d) of the Operating Manual. Correct setting, clamping and padlocking of the points devolve on the SM on duty. (Details of use of Crank Handle as per Appendix-'B').

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

4.1.1 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. Before taking 'OFF' Calling on signal during failure of track circuit the route and clearance of the track over which the train will be admitted must be checked physically by SM on duty. (The detailed procedure is given in Appendix-B)

4.1.2 SHUNT SIGNALS:

(i) Shunt back signals SH - 3 (A-C) and Sh- 4 (A-C) are provided at RUL end & SGRM end respectively for shunt back facility.

(ii) Shunt signal SH-14 (A-C) provided at UAIL siding for shunting on line no 1 to line no 3.

(iii) Shunt signals SH-5, SH-7, SH-9 are provided on L-3, L-2, L-1 respectively at SGRM end below UP starter signals for shunting towards UAIL siding.

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

Custody of Relay room key and procedure for its handover and taking over between SM and S&T staff has to follow the procedure as per JPO issued by COM and CSTE vide No. JPO/02/2012 dated 29.08.2012. Relay room is provided with two independent locks. The key of one lock shall be in the personnel custody of Station Master on duty and the key of other lock shall be in the custody of S&T Maintainer. In the event of necessity such as for attending failure, or regular maintenance, on being requisitioned by S&T maintainer, SM shall hand over the key to the Maintainer. On completion of the work, maintainer shall lock the relay room and shall return the key to SM. The particulars of such transactions shall be entered by the SM in the relay room key register vide OM 2015 para No.13.16.

4.3 (A) POWER SUPPLY:

- i) CLS power panel with rotary change over switch is provided in the SM's office with the three power supplies viz AT, local power supply and DG for changing the switch to the required supply position. Luminous indicator's are provided above the circuit breaker for each supply to indicate the availability of the supplies.
- ii) Normally the rotary switch will be kept towards AT position. Whenever the power block is to be given, the on duty SM must ascertain that other two sources i.e local and DG supply must be available i.e local supply must be available and DG set is in working condition.
- iii) During the non-availability of AT supply SM on duty shall keep the rotary change over switch towards the local supply to feed available local supply to the Installation.
- iv) In case of failure of AT supply without any power block, on duty SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is UP and when tripped, it goes DN). In case of failure of AT supply, the local supply/DG supply shall be utilized by operating the switch. If the circuit breaker is tripping, even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEEE/GEN and CTFO/PSI/TRD/GEN for prompt rectification.
- v) For IPS system that provides to PI, auto-change over has been provided.
- vi) There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

[B] REMOTE MONITORING ASM BOX:

Remote monitoring ASM box gives alarm to the ASM for the following fault conditions:-

- a) 50% DOD (Depth of Discharge) of Battery. In this condition Audio/Visual alarm comes which can be acknowledged with audio cut off.
- b) 60% DOD (Depth of Discharge), which warns for emergency. The Alarm for this condition is same as for condition 1.
- c) 70% DOD (Depth of Discharge), which signals system, shut down. In this condition Signal feed cut off and all DC-DC converters continue working. Audio alarm will continue till power supply restored.
- d) Any of the Module fails, which calls for "Call S&T".
- e) Whenever there is a failure of AT supply, the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of AT supply and make an entry in station diary duly initiating action for rectification of failure, if any.

5. TELECOMMUNICATIONS:

- (a) Telephone attached to Token less Block Instruments is connected to adjacent stations on either side.

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- (b) Hot line Telephone communication is provided between adjacent stations.
- (c) The station is connected to KRPU-RGDA control Circuit.
- (d) Telephone communication is provided between Station Master on duty to UP CH locations and to DN CH Locations.
- (e) Telephone communication is provided between Station Master on duty and UAIL inplant yard.
- (f) 25w VHF set is provided at the station for emergency communication.
- (g) BSNL telephone is provided at this station.
- (h) Telephone is provided with LC gate KR-13 and KR-14

5.1 FAILURE OF COMMUNICATION: -

- a. In the event of failure of communications between the adjacent block stations SR 6.02.06 shall be observed, for working the train.
- b. In the event of total failure of communications between the adjacent block stations SR 6.02.04 shall be observed, for working the train.

6. SYSTEM OF TRAIN WORKING:

6.1 DUTIES OF TRAIN WORKING STAFF:

The movement of trains is controlled by section controller on duty whose orders shall be complied with provided they do not contravene any provisions of General Rules, Subsidiary Rules, Station Working Rules, Block working manual and any other safe working instructions issued from time to time.

In the event of suspension of control working the Station Master on duty shall work independently in conjunction with the Station Master of adjoining Block Stations and shall be responsible to ensure that there is no undue delay to train operation in general.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

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

STAFF IN EACH SHIFT:

Station superintendent	1
TPM/TP	1

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 Master's office.

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 first facing point and advanced starter signal in each direction.

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

6.1.3 ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:

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

6.2 CONDITIONS FOR GRANTING LINE CLEAR:

- a. The conditions laid in GR 8.03(2)(a) (b) (c) (ii) shall be complied with the SM on duty before line is considered clear and line clear is granted.
- b. Before granting a line clear for a train the SM on duty shall personally ensure that the reception signals pertaining to a train are in the 'ON' position and burning properly vide GR 3.49(4).
- c. Line shall not be considered clear and line clear shall not be granted to an UP train unless:
 - i) Whole of the last preceding UP train has arrived completely.
 - ii) UP Home signal /calling-on signal No. 1A/B/C and/or C-1A/B/C is put back to 'ON' and
 - iii) Line is clear up to DN advance starter signal No.12.
- d. Line shall not be considered clear and line clear shall not be granted to a DN train unless:
 - i) Whole of the last preceding DN train has arrived completely.
 - ii) DN Home signal /calling-on signal No. 2A/B/C and/or C-2A/B/C is put back to 'ON' and
 - iii) Line is clear up to UP advance starter signal No.11.

e. ADEQUATE DISTANCE: (SIGNAL OVERLAP)

To take off the Home signals for admission of a train, the adequate distance (overlap) as mentioned below shall be kept clear. [Refer GR.3.40 (3) (b) and SR thereto]

Adequate Distance:

CLEARANCE OF ADEQUATE DISTANCE				
LINE NO.	UP TRAINS		DN TRAINS	
	FROM	TO	FROM	TO
Line no.1 (1 st loop)	UP 1 st loop starter No. 9.	DS-30 when point no. 24 is normal or up to UP advanced starter No. 11.	DN 1 st loop starter No. 6.	DN advanced starter No. 12.
Line no.2 Main line	UP Main line starter No. 7.	UP advanced starter No. 11.	DN Main line starter No. 8.	DN advanced starter No. 12.
Line no.3 (2 nd loop)	UP 2 nd loop starter No. 5.	UP advanced starter No. 11.	DN 2 nd loop starter No.10.	DN advanced starter No. 12.

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Remarks: However when a route is set leading to the Main line the overlap beyond the starter in that particular direction shall extend up to the advanced starter of the station in that direction.

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

Nil

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE:

When a running line is blocked by stabled load wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train at the station etc., the points in rear should be immediately set against the blocked line except when shunting or any other movement is required to be done immediately in that direction on that line vide GR 3.38(2). Lever/block collars placed on the concerned lever/button of the blocked line vide SR 5.04.01 and SR 3.51.06 shall be followed.

Safety point alarm:

A safety point alarm is provided on the panel board with different indications:

1. On complete arrival of a train at the station, the SM has to set the points immediately against the occupied line.
2. In case of SM forgets to alter the points, after a time lag of 02 minutes, an audible buzzer will be heard from this instrument along with the 'RED' indication of the line on which the train has arrived.
3. The SM shall then press 'ACK' button to mute the buzzer, and immediately set the required points against the line on which the train has arrived.
4. On setting the points against the occupied line, the RED indication will disappear.

If all the lines of a station happen to be blocked, when line clear has been granted to a train, the points should be set for the line occupied by a stabled load or a goods train in that order so that, in case of mishap, the chance of casualties are minimized [Refer SR.3.51.06 (b)]. In case of all the lines are occupied by Coaching train, points should be set for a loop line to negotiate with the speed of incoming train would be reduced which in turn, would minimize the consequences/causalities.

6.2.1.2 RECEPTION OF A TRAIN ON BLOCKED LINE:

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

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

Not Applicable

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE.

Not Applicable

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

NIL.

6.2.1.6 ANY SPECIAL CONDITIONS:

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i) Special Instructions:

NIL

ii) Special Restriction:

NIL

6.3 CONDITIONS FOR TAKING “OFF” APPROACH SIGNALS:-

i) Conditions for taking off approach signals are governed by GR 3.40(1) (b), 3.40(2) (b), 3.40(3) (b)

ii) calling-on signal may be taken off for the admission of train in the event of failure of Home signal in terms of SR 3.69.02(a) or for the admission of a train on obstructed line in terms of GR 5.09 and SRs thereto.

6.3.1 RESPONSIBILITY OF STATION MASTER FOR RESTORATION OF SIGNALS TO “ON”:

Station master should ensure that signal is put back to ‘ON’ after passage of the train as per GR 3.36 (2) (B), 14.01 and SR 4.17.01.

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

According to existing interlocking at this station, the simultaneous reception and dispatch of trains is permitted as stipulated below.

1	Reception of an UP train on line No.1 setting overlap to DS-30 when point no 24 is normal.	AN D	Dispatch of another UP train from line no. 2 or 3.
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6.5 COMPLETE ARRIVAL OF TRAINS:

For section TKRI-RUL & TKRI-SGRM:

Entire block section between TKRI-RUL & TKRI-SGRM is provided with digital axle counter.

For section TKRI-RUL:

A pair of digital axle counter is provided between TKRI-RUL one just beyond DN advanced starter signal no. 12 of TKRI and another beyond DN Home signal of RUL for last vehicle verification.

For section TKRI-SGRM:

A pair of digital axle counter is provided between TKRI-SGRM one just beyond UP advanced starter signal no. 11 of TKRI and another beyond UP Home signal of SGRM for last vehicle verification.

The position of the block section whether ‘clear’ or ‘occupied’ is reflected on the axle counter reset box provided in the Station Master’s office which shows ‘GREEN’ when the block section is clear and ‘RED’ when block section is occupied. Whenever a train enters into the block section “Block section clear” indication ‘GREEN’ for the particular block section disappears and ‘RED’ indication appears.

After complete arrival of the train the ‘RED’ indication disappears and ‘GREEN’ indication appears. If after complete arrival of the train ‘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 cannot be taken off for next train and the concerned instrument shall remain locked in last operated position.

A resetting arrangement is provided in the SM office to reset the system to normal position in case of failure of axle counter. The resetting is to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at either end of the block section.

NOTE:

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

6.6 DISPATCH OF TRAINS:

a) To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the Panel Board. He shall suspend all non-isolated shunting and then shall take "OFF" the concerned route starter and advanced starter signal. The 'OFF' aspect of the advanced starter is the authority to proceed into the block section. As soon as the train passes the advanced starter signal, Train entering section indication will appear on the panel. The SM will then send the train entering given section signal to the station in advance.

[Refer GR 3.38, 3.42, SR 3.36.04(b), 3.42.04 and BWM 2.07.5(a)]

6.7 TRAINS RUNNING THROUGH:

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

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

The Station Master on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General and Subsidiary Rule. [Ref GR 3.40, 3.42, 4.17, 4.42, & SR 4.42.02 (b) (i), (ii), (iii), c & (d)]

6.7.1 TRAIN ENTERING BLOCK SECTION:

The SM on duty after verifying that the train has passed past the advanced starter signals shall send the Train Entering Block Section Signals vide BWM 2.07.5(a).

6.7.2 ISSUE OF CAUTION ORDERS:

Whenever in consequence of the line being under repairs or for any other reasons special precautions are necessary a Caution Order detailing the Kilometres and Speed at which

train should run with reasons for taking such precautions shall be handed over to the Guard and Loco pilot in terms of GR 4.09 and SR thereto.

6.8 WORKING IN CASE OF FAILURE:

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

a) TRACK CIRCUITS:

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

b) AXLE COUNTER:

If the axle counter fails between the block sections, resetting procedure will be adopted as per Para 26.0 of SWR (APP-B) if the axle counter indication does not appear 'GREEN' & continues to show 'RED' indication after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SE (signal) for rectification.

c) BLOCK INSTRUMENTS:

In the event of partial/total failure of block instrument, the concerned block instrument shall be suspended till its rectification and trains shall work as per GR (Refer SR 6.02.03 & 6.02.06)

a) RECEPTION OF A TRAIN ON BLOCKED LINE:

Whenever trains are to be admitted on an obstructed line it is necessary that the train is piloted IN on a written authority given by the SM on duty and delivered by a competent Railway servant to the Loco Pilot of the train or by taking off calling-on signal. [Refer GR 5.09 & SRs there to]

b) RECEPTION OF A TRAIN ON NON-SIGNALLED LINE:

NIL

c) DEFECTIVE SIGNALS:

Whenever signals become defective, the procedure laid down in GR & SR shall be followed. [Refer GR 3.68 to 3.71, 3.80 and SR 3.68.01©] In the event of signal showing no lights, station master on duty shall before giving line clear initiate action in accordance with the procedure laid down in GR and relevant SRs. [Refer GR 3.51, 3.69, 3.49(4), 3.68 to 3.77]

d) DEFECTIVE INTERLOCKING:

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

e) DEFECTIVE/DAMAGED POINTS:

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

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

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

a) Motor trolleys shall be worked as per GR 15.25 and SRs there to, BWM 5.11(1) (2), 5.12, 5.13, 5.14(2) (a) and circulars and orders issued from time to time. Material trolleys shall be worked as per GR 15.27 and SRs there to and in accordance with the provisions of Block Working Manual.

b) Tower wagons shall be worked as per GR 17.08 and SRs there to and BWM 4.39 and other circulars and orders issued from time to time.

c) Push trolleys shall run under block protection only vide SR 15.25.09(e).

d) Shunting key of token less block instrument at dispatch station as well as receiving station of the motor/push trolley shall be taken out and kept in the personal custody of SM on duty in addition “trolley on line” board shall be hung up on the handle of the block instrument. Special instructions contained in the circular No.19 of 6.4.88 should be followed.

Note: Trolleys which are to be run on track circuit area shall be insulated as per SR 15.20.02.

7. BLOCKING OF THE LINES:

(a) Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line

except during shunting movement. 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]

(b) 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 SS on duty shall be responsible to secure the vehicle/stable loads to prevent rolling down of vehicles and arrest obstruction and fouling.

NOTE:

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

c) 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, reminder collars shall be used by the SM on duty on the push buttons concerned.

8.0 SHUNTING:

8.1 GENERAL PRECAUTIONS.

Shunting will be carried out at the station in accordance with General Rule and relevant Subsidiary Rules and Block working Manual [Refer GR 3.46, 3.52 to 3.56, 5.13,5.14,5.16 to 5.23, 8.05,8.06, 8.14 and 8.15] with relevant SRs and OM 7.01, 7.07, 7.08, 5.1(2) (B) shall be followed.

NOTE:

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

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:

Shunting in the face of an approach train is strictly prohibited vide GR 8.09 and SR thereto.

8.3 PROHIBITION OF SHUNTING, SPECIAL FEATURES IF ANY:

- (i) Hand shunting is prohibited at both ends of the yard vide GR 5.20.
- (ii) Fly shunting is prohibited at both ends of the yard vide SR 5.21.01 (c)
- (iii) For shunting in both ends of the yard, engine should be leading towards the falling gradient.

8.4 SHUNTING ON SINGLE LINE:

- i) Within station section: Governed by GR 8.10.
- ii) Between last stop signal and opposite first stop signal: Governed by GR 8.12.
- iii) Beyond opposite first stop signal: Unless the line is blocked back, the line outside the first stop signal shall not be obstructed vide GR 8.13.
- iv) During failure of Block instrument: Block back messages shall be exchanged between Station master at either end of the section which is intended to be obstructed supported by

private number. Both the Station Masters shall fix line block collars on respective Block Instruments and shall continue shunting provided the Block section is clear.

8.5 SHUNTING ON DOUBLE LINE:

Not applicable.

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

Shunt signals SH-5, SH-7, SH-9 are provided for shunting purpose towards UAIL siding and also SH-14 is provided for shunting on all three lines from UAIL siding.

9.0 ABNORMAL CONDITION:-

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

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

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

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

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

(v) Failure of Axle counter Block/BPAC: Procedure to be followed vide GR 14.13 & 14.14.

(vi) Failure of MTRC: Not applicable.

(b) i. Procedure for emergency operation of points by Crank Handle.-

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

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

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

checking the entrance and exit track circuits are showing occupancy and clearance in accordance with the train movement.

ii. Procedure for emergency operation of points with point zone axle counter/Track circuits failure and emergency route release:

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

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

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

(c) Certification of clearance of track before Calling –On Signal operation in initiated:-

Before taking off Calling –On signal during failure of track circuit/axle Counter, the route and the clearance of the track over which train would pass to be verified by SM on duty.

(d) Reporting of failure of points, Track circuits/axle counter and interlocking:-

Whenever there is a failure of points, Track circuits/axle counter or any interlocking gear at station, the failure should be reported by SM on duty to the concerned Signaling Maintenance Staff on duty responsible for attending to the failure and only after receipt of the written memo from the Signaling

Maintainer for rectification of the fault, SM should restore the normal working. The entries in failure register to be done with message to the section controller.

9.1 TOTAL FAILURE OF COMMUNICATION:

Rules and regulations for working of trains during total interruption of communication on single line section shall be followed vide SR 6.02.04 and instructions laid down in BWM.

9.2 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

Not applicable

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

(i) In the event of total failure of communication, trains shall run on the authority to proceed without line clear in terms of SR 6.02.03.

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

10. **VISIBILITY TEST OBJECT:**

The signal lights of UP starter signal No.9 and DN starter signal No.6 of Line No.1 are earmarked to serve as visibility test object during day and night 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:**

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 General Rules 3.61 and Subsidiary Rules thereto. The assurance of the staff shall be obtained in the month of OCTOBER every year in the Fog Signal Register vide SR.3.61 as a token of their acknowledgement in fog signaling Rules.

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

12.1 **STATION DETONATOR REGISTER (OPT/124):**

A Register regarding detonator is maintained at the station.

12.2 **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) 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.

©Transportation inspectors shall check the registers and also the stock of detonators on hand each time they visit the station and initial with date as an indication having done so.

13. **APPENDICES:**

APPENDIX-A	Working of Level crossing gates.
APPENDIX-B	System of signal Interlocking and Telecommunications.
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 this station.

APPENDIX-F	Working of DK stations, Halts, IBS and outlying sidings.
APPENDIX-G	Rules for working of trains in Electrified sections.

CERTIFICATE

NOTHING IN THESE RULES SHALL BE READ AS CANCELLING AMENDING OR MODIFYING ANY GENERAL AND SUBSIDIARY RULES, BLOCK WORKING MANUAL RULES AND OPERATING MANUAL. THESE RULES CANCEL ALL PREVIOUS STATION WORKING RULES OF “TIKIRI”.

(B.M.VENKATESWARLU)
DSTE/WAT

(K.SIVA HARHA)
DOM/ WAT

EAST COAST RAILWAY
WALTAIR DIVISION

STATION WORKING RULES OF TIKIRI [BROAD GAUGE]

Date of Issue: -

Date brought in force: -

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

NOTE: -

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

1. STATION WORKING RULE DIAGRAM:

(i) The Station Working Rule diagram no: SI/WRD/23124 Alt'D'

(ii) CSTE/East Coast Railway Signal Interlocking Plan No: SI/23124 ALT 'D'

(iii) Date up to which corrected:

2. DESCRIPTION OF STATION:

2.1 GENERAL : LOCATION:

a) Name of the station	:	TIKIRI
b) Class of station	:	'B' class, Std-IIR
c) Section	:	Koraput - Rayagada
d) Double line/Single line	:	Single line
e) Electrified/Non Electrified	:	Electrified
f) Gauge BG/MG/NG	:	BG
g) Railway	:	East Coast Railway
h) Route	:	'D' Special
i) Situated at	:	Km 83.065
j) Reckoned from	:	Koraput
k) Number of cabins	:	Centrally operated Domino type full-fledged panel.

2.2. BLOCK STATIONS, IBH. IBS ON EITHER SIDE AND THEIR DISTANCE AND OUT LYING SIDINGS:

Sl. no	Adjacent Block - section	Distance	Direction
a	RAULI (RUL)	12.185 km	RGDA end
	SINGARAM (SGRM)	8.11 km	KRPU end
b	Provision of IBS	Nil	
c	Automatic signal	Nil	
d	DK station/Outlying sidings	Nil	
e	Passenger halt	Nil	

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(K.SIVA HARHA)
DOM/ WAT

2.3 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' ends
TKRI-RUL DN Direction	From DN advanced starter signal no. 12 of TKRI	DN home signal of RUL.
TKRI-SGRM UP Direction	From UP advanced starter signal no.11 of TKRI	UP home signal of SGRM.

2.4 GRADIENTS:

a) From the centre of the station building towards SGRM:

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
Ch: 0.000	Ch: 800M	800M	1 in 2000 raising
Ch: 800M	Ch:881.6M	81.6M	1 in 1200 falling
Ch: 881.6M	Ch: 1303M	421.4M	Level
Ch: 1303M	Ch: 2215M	912M	1 in 100 raising
Ch: 2215M	Ch: 2350M	135M	Level
Ch: 2350M	Into section	-----	1 in 200 falling
Ch: 0.0000 from UAIL siding	Ch: 1240M from UAIL siding	1240M	Level
Ch: 1240M	Ch: 800M	440M	1 in 550 falling
Ch: 800M	Towards station	----	1 in 2000 falling

b) From the centre of the station building towards RUL:

Chainage in Mtrs from CSB		Stretch	Gradient
From	To		
Ch: 0.000	Ch: 862.225M	862.225M	1 in 2000 falling
Ch: 862.225M	Ch: 5985M	5122.775M	1 in 100© falling
Ch: 5985M	Into section	----	1 in 260 falling

2.5 (A) LAY OUT:

Sl no	Running/Non Running line	Electrified/Non Electrified
1	Route-1 (1 st loop)	Electrified
2	Route-2 (Main line)	Electrified
3	Route-3 (2 nd loop)	Electrified

(B) PLATFORMS:

One low level passenger platform measuring 244MX6.4M is provided on Line no.1 (1st loop).

(B.M.VENKATESWARLU)
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DOM/ WAT

2.5.1 DIRECTION OF MOVEMENT & HOLDING CAPACITY:**(a) DIRECTION OF MOVEMENT:-**

The trains coming from Rauli end and proceed towards Singaram are UP trains and the trains coming from Singaram end and proceed towards Rauli are DN trains.

HOLDING CAPACITIES:

Line no	Designation	CSL	Electrified/Non Electrified	CSL starting & Destination
Line No 1	1 st Loop	774 Meters	Electrified	From Starter to Starter
Line No 2	Main line	731 Meters	Electrified	From Starter to Starter
Line No 3	2 nd loop	744 Meters	Electrified	From Starter to Starter

2.5.2 NON RUNNING LINES AND THEIR CAPACITY:**(A) UAIL INPLANT YARD:**

UAIL siding is taken off from line no.1

towards Singaram end and is isolated by derailing switch-30 at CH:379.12M towards siding and it is isolated by point no.26 of sand hump towards station. The UAIL inplant yard is about 9.23 km from station yard. Shunt signals SH-5, SH-7, SH-9 are provided for shunting purpose towards siding and also SH-14 is provided for shunting on all three lines from siding.

B. GOODS SIDING:

One Goods siding is taken off from line no.1 at RUL end and is isolated by derailing switches and is measuring 111M (GJ-GJ). The entrance point and derailing switch are operated individually by arc levers in succession with single entry at a time. Hand plunger locks fitted at the entrance point unlocked by key 'P' released from EKT provided in location box through control no.27 from panel. When control 27 is transmitted from panel, S-1/

C-1, SH-3, S-8, S-9, SH-9, S2/C2, SH4, SH-14 signals for line no1 will be locked in their normal position.

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT:

NIL

2.6 LEVEL CROSSINGS:

One C Class Engg. LC gate is situated between TKRI-SGRM at KM 78/13-16 (KR-13)

3. SYSTEM AND MEANS OF WORKING:-**(i)System of working: Absolute block system:**

Trains are worked under Absolute block system in accordance with GR 7.01(1) (a), 8.01(1) (a) &(c), 8.01(2) (b), 8.03(2) (a), (b), (c) (ii), 14.01 to 14.07, 14.08(b) (iv), 14.09 to 14.13 and BWM chapter-IV part I.

(ii)Block instruments:

Single line Diado type Tokenless block instruments are provided for block sections TKRI-SGRM and TKRI-RUL vide GR 14.01(a) and the 'OFF' aspect of the last stop

signal is the authority for the Loco pilots of all trains to enter into the block section vide GR 14.08(b) (iv).

(iii)Co-operative/Non Co-operative: Co-operative.

(iv)Provision of block telephone: Telephone attached to block instrument connecting the adjacent block stations concerned.

(v)Custody of keys of block instrument: Block instrument is provided with double locking. One key will be with SM and other key will be with S&T maintainer.

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING:

- 4.1.0 a) Standard of Interlocking: This Station is provided with Standard-II® Panel Interlocking.
- b) Type of signals: Multiple Aspect Colour Light Signals. The aspects and indications of the MACLS is governed by GR.3.08 (4) (b).
- c) The Station is provided with central Panel Interlocking (PI). All signals and points are electrically operated from the central Panel provided at SM's Office.
- d) Method of operation: Central Panel is provided in the Station Master's office to electrically control all signals and points.
- e) Provision of axle counter/Track circuits on running lines:

Track circuits are provided in the yard as 1AT, 1T, 12AT, 21T, 23T, L₁T₁, L₁T₂, L₁T₃, L₂T₁, L₂T₂, L₂T₃, L₃T₁, L₃T₂, L₃T₃, 24AT, 24BT, 22T, 28AT, 28AT₁, 28BT₁, 11AT, 2T and 2AT. Axle counters are provided for TKRI-SGRM (BAXT) and TKRI-RUL (BAXT). Normally the panel is blank except point and Block section indications for the above track circuits/ Axle counters are available on Panel at SM's office. When a signal is cleared the route indication 'Yellow' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

- f) Calling on signals/IBS: Calling-on signals are provided below Home signals (i.e. in both Up & Down directions) as per GR.3.13 (1) (b), (2) (3) (4) & (6) (b).
- g) IBS is not provided at this station.
- h) The control Panel is provided with SM's key which shall always remain in the custody of the Station Master on duty for control of points, signals and crank handles control etc in terms of SR 3.36.03(a).

i) CRANK HANDLE:

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. CH-1 controls 21A/B, 23A/B; CH-2 controls 22A/B, 24A/B; CH-3 controls 26, 30; CH-4 controls 28A/B.

These crank handles are interlocked with the signaling and interlocking system at this station and normally locked inside the EKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals are not taken 'OFF' and the route is not locked for whatever reasons. Crank Handle can be released by pressing common 'TRANS' push button

and concerned Crank handle control push button simultaneously. When the keys are taken out no signal can be taken 'OFF' over the particular route on the points nominated by the crank handle.

This key can be electrically transmitted at both ends locations of the yard for manual operation of the defective points. The failure of motor operated points must be ensured by physical checking that there is no obstruction. SM on duty shall personally ensure the clamping and padlocking of all facing and trailing points. An emergency

Crank handle register shall be maintained by the SM on duty at the station as per Para 20.06(d) of the Operating Manual. Correct setting, clamping and padlocking of the points devolve on the SM on duty. (Details of use of Crank Handle as per Appendix-'B').

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

4.1.1 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. Before taking 'OFF' Calling on signal during failure of track circuit the route and clearance of the track over which the train will be admitted must be checked physically by SM on duty. (The detailed procedure is given in Appendix-B)

4.1.2 SHUNT SIGNALS:

(i) Shunt back signals SH - 3 (A-C) and Sh- 4 (A-C) are provided at RUL end & SGRM end respectively for shunt back facility.

(ii) Shunt signal SH-14 (A-C) provided at UAIL siding for shunting on line no 1 to line no 3.

(iii) Shunt signals SH-5, SH-7, SH-9 are provided on L-3, L-2, L-1 respectively at SGRM end below UP starter signals for shunting towards UAIL siding.

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

Custody of Relay room key and procedure for its handover and taking over between SM and S&T staff has to follow the procedure as per JPO issued by COM and CSTE vide No. JPO/02/2012 dated 29.08.2012. Relay room is provided with two independent locks. The key of one lock shall be in the personnel custody of Station Master on duty and the key of other lock shall be in the custody of S&T Maintainer. In the event of necessity such as for attending failure, or regular maintenance, on being requisitioned by S&T maintainer, SM shall hand over the key to the Maintainer. On completion of the work, maintainer shall lock the relay room and shall return the key to SM. The particulars of such transactions shall be entered by the SM in the relay room key register vide OM 2015 para No.13.16.

4.3 (A) POWER SUPPLY:

- i) CLS power panel with rotary change over switch is provided in the SM's office with the three power supplies viz AT, local power supply and DG for changing the switch to the required supply position. Luminous indicator's are provided above the circuit breaker for each supply to indicate the availability of the supplies.
- ii) Normally the rotary switch will be kept towards AT position. Whenever the power block is to be given, the on duty SM must ascertain that other two sources i.e local and DG supply must be available i.e local supply must be available and DG set is in working condition.
- iii) During the non-availability of AT supply SM on duty shall keep the rotary change over switch towards the local supply to feed available local supply to the Installation.
- iv) In case of failure of AT supply without any power block, on duty SM has to check whether the circuit breaker has tripped. (Three circuit breakers are provided in the changeover switch board, one for each supply and their normal position is UP and when tripped, it goes DN). In case of failure of AT supply, the local supply/DG supply shall be utilized by operating the switch. If the circuit breaker is tripping, even after resetting, no attempts shall be made to hold it by any other means and a message shall be given to the AEEE/GEN and CTFO/PSI/TRD/GEN for prompt rectification.
- v) For IPS system that provides to PI, auto-change over has been provided.
- vi) There is a remote monitoring ASM box provided at the station to monitor the health of IPS.

[B] **REMOTE MONITORING ASM BOX:**

Remote monitoring ASM box gives alarm to the ASM for the following fault conditions:-

- a) 50% DOD (Depth of Discharge) of Battery. In this condition Audio/Visual alarm comes which can be acknowledged with audio cut off.
- b) 60% DOD (Depth of Discharge), which warns for emergency. The Alarm for this condition is same as for condition 1.
- c) 70% DOD (Depth of Discharge), which signals system, shut down. In this condition Signal feed cut off and all DC-DC converters continue working. Audio alarm will continue till power supply restored.
- d) Any of the Module fails, which calls for "Call S&T".
- e) Whenever there is a failure of AT supply, the SM shall take prompt action to inform to all concerned for the rectification. The SM himself, during his daily checks, shall test the availability of AT supply and make an entry in station diary duly initiating action for rectification of failure, if any.

5. **TELECOMMUNICATIONS:**

- (a) Telephone attached to Token less Block Instruments is connected to adjacent stations on either side.

- (b) Hot line Telephone communication is provided between adjacent stations.
- (c) The station is connected to KRPU-RGDA control Circuit.
- (d) Telephone communication is provided between Station Master on duty to UP CH locations and to DN CH Locations.
- (e) Telephone communication is provided between Station Master on duty and UAIL inplant yard.
- (f) 25w VHF set is provided at the station for emergency communication.
- (g) BSNL telephone is provided at this station.
- (h) Telephone is provided with LC gate KR-13.

5.1 FAILURE OF COMMUNICATION: -

- a. In the event of failure of communications between the adjacent block stations SR 6.02.06 shall be observed, for working the train.
- b. In the event of total failure of communications between the adjacent block stations SR 6.02.04 shall be observed, for working the train.

6. SYSTEM OF TRAIN WORKING:

6.1 DUTIES OF TRAIN WORKING STAFF:

The movement of trains is controlled by section controller on duty whose orders shall be complied with provided they do not contravene any provisions of General Rules, Subsidiary Rules, Station Working Rules, Block working manual and any other safe working instructions issued from time to time.

In the event of suspension of control working the Station Master on duty shall work independently in conjunction with the Station Master of adjoining Block Stations and shall be responsible to ensure that there is no undue delay to train operation in general.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

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

STAFF IN EACH SHIFT:

Station superintendent	1
TPM/TP	1

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 Master's office.

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 first facing point and advanced starter signal in each direction.

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

6.1.3 ASSURANCE OF THE STAFF IN THE ASSURANCE REGISTER:

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

6.2 CONDITIONS FOR GRANTING LINE CLEAR:

- a. The conditions laid in GR 8.03(2)(a) (b) (c) (ii) shall be complied with the SM on duty before line is considered clear and line clear is granted.
- b. Before granting a line clear for a train the SM on duty shall personally ensure that the reception signals pertaining to a train are in the 'ON' position and burning properly vide GR 3.49(4).
- c. Line shall not be considered clear and line clear shall not be granted to an UP train unless:
 - i) Whole of the last preceding UP train has arrived completely.
 - ii) UP Home signal /calling-on signal No. 1A/B/C and/or C-1A/B/C is put back to 'ON' and
 - iii) Line is clear up to DN advance starter signal No.12.
- d. Line shall not be considered clear and line clear shall not be granted to a DN train unless:
 - i) Whole of the last preceding DN train has arrived completely.
 - ii) DN Home signal /calling-on signal No. 2A/B/C and/or C-2A/B/C is put back to 'ON' and
 - iii) Line is clear up to UP advance starter signal No.11.
 - iv) LC gate KR
- e. ADEQUATE DISTANCE: (SIGNAL OVERLAP)

To take off the Home signals for admission of a train, the adequate distance (overlap) as mentioned below shall be kept clear. [Refer GR.3.40 (3) (b) and SR thereto]

Adequate Distance:

CLEARANCE OF ADEQUATE DISTANCE				
LINE NO.	UP TRAINS		DN TRAINS	
	FROM	TO	FROM	TO
Line no.1 (1 st loop)	UP 1 st loop starter No. 9.	DS-30 when point no. 24 is normal or up to UP advanced starter No. 11.	DN 1 st loop starter No. 6.	DN advanced starter No. 12.
Line no.2 Main line	UP Main line starter No. 7.	UP advanced starter No. 11.	DN Main line starter No. 8.	DN advanced starter No. 12.
Line no.3 (2 nd loop)	UP 2 nd loop starter No. 5.	UP advanced starter No. 11.	DN 2 nd loop starter No.10.	DN advanced starter No. 12.

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Remarks: However when a route is set leading to the Main line the overlap beyond the starter in that particular direction shall extend up to the advanced starter of the station in that direction.

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

Nil

6.2.1.1 SETTING OF POINTS AGAINST BLOCKED LINE:

When a running line is blocked by stabled load wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train at the station etc., the points in rear should be immediately set against the blocked line except when shunting or any other movement is required to be done immediately in that direction on that line vide GR 3.38(2). Lever/block collars placed on the concerned lever/button of the blocked line vide SR 5.04.01 and SR 3.51.06 shall be followed.

Safety point alarm:

A safety point alarm is provided on the panel board with different indications:

1. On complete arrival of a train at the station, the SM has to set the points immediately against the occupied line.
2. In case of SM forgets to alter the points, after a time lag of 02 minutes, an audible buzzer will be heard from this instrument along with the 'RED' indication of the line on which the train has arrived.
3. The SM shall then press 'ACK' button to mute the buzzer, and immediately set the required points against the line on which the train has arrived.
4. On setting the points against the occupied line, the RED indication will disappear.

If all the lines of a station happen to be blocked, when line clear has been granted to a train, the points should be set for the line occupied by a stabled load or a goods train in that order so that, in case of mishap, the chance of casualties are minimized [Refer SR.3.51.06 (b)]. In case of all the lines are occupied by Coaching train, points should be set for a loop line to negotiate with the speed of incoming train would be reduced which in turn, would minimize the consequences/causalities.

6.2.1.2 RECEPTION OF A TRAIN ON BLOCKED LINE:

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

6.2.1.3 RECEPTION OF TRAIN ON NON-SIGNALLED LINE:

Not Applicable

6.2.1.4 DESPATCH OF TRAIN FROM NON-SIGNALLED LINE.

Not Applicable

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

NIL.

6.2.1.6 ANY SPECIAL CONDITIONS:

i) Special Instructions:

NIL

ii) Special Restriction:

NIL

6.3 CONDITIONS FOR TAKING “OFF” APPROACH SIGNALS:-

i) Conditions for taking off approach signals are governed by GR 3.40(1) (b), 3.40(2) (b), 3.40(3) (b)

ii) calling-on signal may be taken off for the admission of train in the event of failure of Home signal in terms of SR 3.69.02(a) or for the admission of a train on obstructed line in terms of GR 5.09 and SRs thereto.

6.3.1 RESPONSIBILITY OF STATION MASTER FOR RESTORATION OF SIGNALS TO “ON”:

Station master should ensure that signal is put back to ‘ON’ after passage of the train as per GR 3.36 (2) (B), 14.01 and SR 4.17.01.

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

According to existing interlocking at this station, the simultaneous reception and dispatch of trains is permitted as stipulated below.

1	Reception of an UP train on line No.1 setting overlap to DS-30 when point no 24 is normal.	AND	Dispatch of another UP train from line no. 2 or 3.
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6.5 COMPLETE ARRIVAL OF TRAINS:

For section TKRI-RUL & TKRI-SGRM:

Entire block section between TKRI-RUL & TKRI-SGRM is provided with digital axle counter.

For section TKRI-RUL:

A pair of digital axle counter is provided between TKRI-RUL one just beyond DN advanced starter signal no. 12 of TKRI and another beyond DN Home signal of RUL for last vehicle verification.

For section TKRI-SGRM:

A pair of digital axle counter is provided between TKRI-SGRM one just beyond UP advanced starter signal no. 11 of TKRI and another beyond UP Home signal of SGRM for last vehicle verification.

The position of the block section whether ‘clear’ or ‘occupied’ is reflected on the axle counter reset box provided in the Station Master’s office which shows ‘GREEN’ when the block section is clear and ‘RED’ when block section is occupied. Whenever a train enters into the block section “Block section clear” indication ‘GREEN’ for the particular block section disappears and ‘RED’ indication appears.

After complete arrival of the train the ‘RED’ indication disappears and ‘GREEN’ indication appears. If after complete arrival of the train ‘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 cannot be taken off for next train and the concerned instrument shall remain locked in last operated position.

A resetting arrangement is provided in the SM office to reset the system to normal position in case of failure of axle counter. The resetting is to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at either end of the block section.

NOTE:

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

6.6 DISPATCH OF TRAINS:

a) To dispatch a train, the Station master on duty having obtained line clear for that train, shall set the route for the outgoing train correctly and satisfy himself by observing the visual indication on the Panel Board. He shall suspend all non-isolated shunting and then shall take "OFF" the concerned route starter and advanced starter signal. The 'OFF' aspect of the advanced starter is the authority to proceed into the block section. As soon as the train passes the advanced starter signal, Train entering section indication will appear on the panel. The SM will then send the train entering given section signal to the station in advance.

[Refer GR 3.38, 3.42, SR 3.36.04(b), 3.42.04 and BWM 2.07.5(a)]

6.7 TRAINS RUNNING THROUGH:

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

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

The Station Master on duty is responsible to see that a train passes complete with its last vehicle indicator. If a train passes without last vehicle indicator or its authorized substitute, action shall be taken as per General and Subsidiary Rule. [Ref GR 3.40, 3.42, 4.17, 4.42, & SR 4.42.02 (b) (i), (ii), (iii), c & (d)]

6.7.1 TRAIN ENTERING BLOCK SECTION:

The SM on duty after verifying that the train has passed past the advanced starter signals shall send the Train Entering Block Section Signals vide BWM 2.07.5(a).

6.7.2 ISSUE OF CAUTION ORDERS:

Whenever in consequence of the line being under repairs or for any other reasons special precautions are necessary a Caution Order detailing the Kilometres and Speed at which

train should run with reasons for taking such precautions shall be handed over to the Guard and Loco pilot in terms of GR 4.09 and SR thereto.

6.8 WORKING IN CASE OF FAILURE:

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

a) TRACK CIRCUITS:

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

b) AXLE COUNTER:

If the axle counter fails between the block sections, resetting procedure will be adopted as per Para 26.0 of SWR (APP-B) if the axle counter indication does not appear 'GREEN' & continues to show 'RED' indication after resetting, the concerned block section shall be suspended & failure intimation to be given to sectional signal Maintainer /JE/SE (signal) for rectification.

c) BLOCK INSTRUMENTS:

In the event of partial/total failure of block instrument, the concerned block instrument shall be suspended till its rectification and trains shall work as per GR (Refer SR 6.02.03 & 6.02.06)

a) RECEPTION OF A TRAIN ON BLOCKED LINE:

Whenever trains are to be admitted on an obstructed line it is necessary that the train is piloted IN on a written authority given by the SM on duty and delivered by a competent Railway servant to the Loco Pilot of the train or by taking off calling-on signal. [Refer GR 5.09 & SRs there to]

b) RECEPTION OF A TRAIN ON NON-SIGNALLED LINE:

NIL

c) DEFECTIVE SIGNALS:

Whenever signals become defective, the procedure laid down in GR & SR shall be followed. [Refer GR 3.68 to 3.71, 3.80 and SR 3.68.01©] In the event of signal showing no lights, station master on duty shall before giving line clear initiate action in accordance with the procedure laid down in GR and relevant SRs. [Refer GR 3.51, 3.69, 3.49(4), 3.68 to 3.77]

d) DEFECTIVE INTERLOCKING:

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

e) DEFECTIVE/DAMAGED POINTS:

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

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

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

a) Motor trolleys shall be worked as per GR 15.25 and SRs there to, BWM 5.11(1) (2), 5.12, 5.13, 5.14(2) (a) and circulars and orders issued from time to time. Material trolleys shall be worked as per GR 15.27 and SRs there to and in accordance with the provisions of Block Working Manual.

b) Tower wagons shall be worked as per GR 17.08 and SRs there to and BWM 4.39 and other circulars and orders issued from time to time.

c) Push trolleys shall run under block protection only vide SR 15.25.09(e).

d) Shunting key of token less block instrument at dispatch station as well as receiving station of the motor/push trolley shall be taken out and kept in the personal custody of SM on duty in addition “trolley on line” board shall be hung up on the handle of the block instrument. Special instructions contained in the circular No.19 of 6.4.88 should be followed.

Note: Trolleys which are to be run on track circuit area shall be insulated as per SR 15.20.02.

7. BLOCKING OF THE LINES:

(a) Whenever a running line is blocked either by loose vehicles or by stabling train or by a train which is to cross or give precedence to another train, the points at either end should immediately be set against the blocked line

except during shunting movement. 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]

(b) 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 SS on duty shall be responsible to secure the vehicle/stable loads to prevent rolling down of vehicles and arrest obstruction and fouling.

NOTE:

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

c) 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, reminder collars shall be used by the SM on duty on the push buttons concerned.

8.0 SHUNTING:

8.1 GENERAL PRECAUTIONS.

Shunting will be carried out at the station in accordance with General Rule and relevant Subsidiary Rules and Block working Manual [Refer GR 3.46, 3.52 to 3.56, 5.13,5.14,5.16 to 5.23, 8.05,8.06, 8.14 and 8.15] with relevant SRs and OM 7.01, 7.07, 7.08, 5.1(2) (B) shall be followed.

NOTE:

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

8.2 SHUNTING IN FACE OF AN APPROACHING TRAIN:

Shunting in the face of an approach train is strictly prohibited vide GR 8.09 and SR thereto.

8.3 PROHIBITION OF SHUNTING, SPECIAL FEATURES IF ANY:

- (i) Hand shunting is prohibited at both ends of the yard vide GR 5.20.
- (ii) Fly shunting is prohibited at both ends of the yard vide SR 5.21.01 (c)
- (iii) For shunting in both ends of the yard, engine should be leading towards the falling gradient.

8.4 SHUNTING ON SINGLE LINE:

- i) Within station section: Governed by GR 8.10.
- ii) Between last stop signal and opposite first stop signal: Governed by GR 8.12.
- iii) Beyond opposite first stop signal: Unless the line is blocked back, the line outside the first stop signal shall not be obstructed vide GR 8.13.
- iv) During failure of Block instrument: Block back messages shall be exchanged between Station master at either end of the section which is intended to be obstructed supported by

private number. Both the Station Masters shall fix line block collars on respective Block Instruments and shall continue shunting provided the Block section is clear.

8.5 SHUNTING ON DOUBLE LINE:

Not applicable.

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

Shunt signals SH-5, SH-7, SH-9 are provided for shunting purpose towards UAIL siding and also SH-14 is provided for shunting on all three lines from UAIL siding.

9.0 ABNORMAL CONDITION:-

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

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

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

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

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

(v) Failure of Axle counter Block/BPAC: Procedure to be followed vide GR 14.13 & 14.14.

(vi) Failure of MTRC: Not applicable.

(b) i. Procedure for emergency operation of points by Crank Handle.-

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

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

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

checking the entrance and exit track circuits are showing occupancy and clearance in accordance with the train movement.

ii. Procedure for emergency operation of points with point zone axle counter/Track circuits failure and emergency route release:

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

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

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

(c) Certification of clearance of track before Calling –On Signal operation in initiated:-

Before taking off Calling –On signal during failure of track circuit/axle Counter, the route and the clearance of the track over which train would pass to be verified by SM on duty.

(d) Reporting of failure of points, Track circuits/axle counter and interlocking:-

Whenever there is a failure of points, Track circuits/axle counter or any interlocking gear at station, the failure should be reported by SM on duty to the concerned Signaling Maintenance Staff on duty responsible for attending to the failure and only after receipt of the written memo from the Signaling

Maintainer for rectification of the fault, SM should restore the normal working. The entries in failure register to be done with message to the section controller.

9.1 TOTAL FAILURE OF COMMUNICATION:

Rules and regulations for working of trains during total interruption of communication on single line section shall be followed vide SR 6.02.04 and instructions laid down in BWM.

9.2 TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE SECTION:

Not applicable

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

- (i) In the event of total failure of communication, trains shall run on the authority to proceed without line clear in terms of SR 6.02.03.
- (ii) In the event of necessity to send a train to assist the crippled trains, SR 6.02.05 shall be followed.

10. VISIBILITY TEST OBJECT:

The signal lights of UP starter signal No.9 and DN starter signal No.6 of Line No.1 are earmarked to serve as visibility test object during day and night 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:

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 General Rules 3.61 and Subsidiary Rules thereto. The assurance of the staff shall be obtained in the month of OCTOBER every year in the Fog Signal Register vide SR.3.61 as a token of their acknowledgement in fog signaling Rules.

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

12.1 STATION DETONATOR REGISTER (OPT/124):

A Register regarding detonator is maintained at the station.

12.2 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) 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.

©Transportation inspectors shall check the registers and also the stock of detonators on hand each time they visit the station and initial with date as an indication having done so.

13. APPENDICES:

APPENDIX-A	Working of Level crossing gates.
APPENDIX-B	System of signal Interlocking and Telecommunications.
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 this station.

APPENDIX-F	Working of DK stations, Halts, IBS and outlying sidings.
APPENDIX-G	Rules for working of trains in Electrified sections.

CERTIFICATE

NOTHING IN THESE RULES SHALL BE READ AS CANCELLING AMENDING OR MODIFYING ANY GENERAL AND SUBSIDIARY RULES, BLOCK WORKING MANUAL RULES AND OPERATING MANUAL. THESE RULES CANCEL ALL PREVIOUS STATION WORKING RULES OF “TIKIRI”.

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<u>LEVEL CROSSING GATES</u>		
WORKING OF 'C' CLASS LEVEL CROSSING GATE of KR-13		
GENERAL DESCRIPTION OF LEVEL CROSSING GATE:		
1.	Number of Level Crossing Gate	KR-13
2.	Engineering or Traffic Gate	Engineering
3.	Under control of Station Master / Permanent Way Inspector	SSE/P/LKMR
4.	Location at KM.	78/13-14(78.784
5.	At Station	-
6.	In between stations	SGRM-TKRI
7.	BG / MG / NG	BG
8.	Single line / Double line / Multiple line	Single line
9.	Normal Position	Closed to road traffic
10.	Interlocked / Non-Interlocked	Non-Interlocked
11.	Means of Interlocking	Non-Interlocked
12.	Provision of Gate signal at Kms. (i) Up Line (ii) Dn Line	Nil Nil
13.	Signalling arrangements	No
14.	Means of Communication – Telephone / Bell etc.	TIKRI station
15.	Width of level crossing gate	7.50m
16.	Type of road (NH / SH / Others)	Others
17.	Name of Road	Village Road
18.	Metalled / non-metalled	CC block
19.	Approach road	. Metalled
20.	Width of the road	6.0M
21.	Angle of road crossing (in case of the skew gates)	90°
22.	Road gradient (if any) (i) North / East side (ii) South / West side	1 in 30 1 in 30
23.	Road alignment (straight/curve) (i) North / East side (ii) South / West side	Curve Curve
24.	Provision of height gauges	Yes
25.	Type of Barriers	Lifting barrier
26.	Length of Check rails	8.0M
27.	Road surface in between L-Xing gates	Level
28.	Length of Rumble strip / speed breakers	6.0M
29.	Road signs	Provided
30.	Speed breaker indication board	Provided
31.	TVU	310, 23-03-17
32.	Census next due on	2020
33.	Demarcation for placement of Detonators	Marked at appr. distance
34.	No. of Gatemen working	Two
35.	Nearest Railway Medical Assistance	TIKRI
36.	Nearest Private Medical Assistance available (if any)	TIKRI
37.	List of equipment available Yes / No	YES

<u>LEVEL CROSSING GATES</u>		
WORKING OF 'C' CLASS LEVEL CROSSING GATE of KR-14		
GENERAL DESCRIPTION OF LEVEL CROSSING GATE:		
1.	Number of Level Crossing Gate	KR-14
2.	Engineering or Traffic Gate	Engineering
3.	Under control of Station Master / Permanent Way Inspector	SSE/P/LKMR
4.	Location at KM.	85/16-17
5.	At Station	-
6.	In between stations	RUL-TKRI
7.	BG / MG / NG	BG
8.	Single line / Double line / Multiple line	Single line
9.	Normal Position	Closed to road traffic
10.	Interlocked / Non-Interlocked	Non-Interlocked
11.	Means of Interlocking	Non-Interlocked
12.	Provision of Gate signal at Kms. (i) Up Line (ii) Dn Line	Nil Nil
13.	Signalling arrangements	No
14.	Means of Communication – Telephone / Bell etc.	TIKRI station
15.	Width of level crossing gate	7.50m
16.	Type of road (NH / SH / Others)	Others
17.	Name of Road	Village Road
18.	Metalled / non-metalled	CC block
19.	Approach road	. Metalled
20.	Width of the road	6.0M
21.	Angle of road crossing (in case of the skew gates)	90°
22.	Road gradient (if any) (i) North / East side (ii) South / West side	1 in 30 1 in 30
23.	Road alignment (straight/curve) (i) North / East side (ii) South / West side	Curve Curve
24.	Provision of height gauges	Yes
25.	Type of Barriers	Lifting barrier
26.	Length of Check rails	8.0M
27.	Road surface in between L-Xing gates	Level
28.	Length of Rumble strip / speed breakers	6.0M
29.	Road signs	Provided
30.	Speed breaker indication board	Provided
31.	TVU	310, 23-03-17
32.	Census next due on	2020
33.	Demarcation for placement of Detonators	Marked at appr. distance
34.	No. of Gatemen working	Two
35.	Nearest Railway Medical Assistance	TIKRI
36.	Nearest Private Medical Assistance available (if any)	TIKRI
37.	List of equipment available Yes / No	YES

1.2	<u>EQUIPMENT:</u>		
	<u>SL</u>	<u>ITEMS</u>	<u>QUANTITY / NUMBERS</u>
	1.	LED based flashing tri color hand signal lampsr	3 (5 on Quadruple / Line or twin single line)
	2.	Hand Signal Flag Green	1 Mounted on stick
	3.	Hand Signal Flag Red	3 (6 on Quadruple / line or Twin single line & 7 in case Hexaple Section mounted on sticks)
	4.	Banner Flag Red	3 (5 on Quadruple / Line or twin single line)
	5.	Posts for exhibiting red banner flag	2 (4 on Q / Twin single line and 5 on Hexaple section)
	6.	Spare chains with padlocks	2 with stop mark
	7.	Detonators	10 in tin case
	8.	A small chain in case of failure of gate boom	2
	9.	Gate lamps	2
	10.	Tommy Bar	1
	11.	Mortar Pan	1
	12.	Spade / Powrah	1
	13.	Hammer	1 (In case of asphalted road this may not be provided)
	14.	Pick Axe	1 (In case of asphalted road this may not be provided)
	15.	Tin case for flags	1
	16.	Can for oil	1
	17.	Water pot / Bucket	1
	18.	Canister for Muster Roll	1
	19.	Set of spare spectacles of gateman wearing glasses	1
	20.	Board demarcating protection of level crossing gate diagram in case of obstruction on gate	1
	21.	Basket	1
	22.	Whistle	1
	23.	Wall Clock	1
1.3	<u>RECORDS TO BE KEPT AT GATE LODGE:</u>		
	In addition to the above equipment, following records shall also be kept at the gate lodge.		
	1.	Gate Working Instructions in Hindi / English.	
	2.	Gate Working Instructions in local vernacular language.	
	3.	Gateman Rule Book in local vernacular language	
	4.	List for tools and books.	
	5.	Duty Roster.	
	6.	Certificate for working as gateman.	
	7.	Bio-data particulars of Gatemen, including date of passing vision test, initial / refresher course, safety camp etc.	
	8.	Accident Register.	
	9.	Record of last census of road traffic at level crossing gate.	

	10.	Public Complaint Book.
	11.	Inspection Book.
1.4	<u>COMPETENCY</u>	
	Gateman working at this gate should have competency certificate applicable to perform duty at this gate issued by the sectional JE/SE (P.Way).	
1.5	<u>DUTIES OF GATEMAN:</u>	
	1.	<u>ALERTNESS:</u>
		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.	<u>POSITION DURING PASSAGE OF TRAINS:</u>
		During passage of trains, gateman will stand in the manner indicated below:
	i)	Gateman will stand alternatively 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.	<u>ROUTING DUTIES OF GATEMAN:</u>
	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, 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, and 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 prepared to repeat any signal which guard may give to drive on walkie-talkie or in any other way.
	vii.	If lifting barriers 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 Station Master, 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 the 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 driver 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 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.
	xvi i	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 L.C. gate.
	xix	Gateman shall prevent tress passing by persons or cattle to the maximum extent.
	4.	<u>ACTION IN CASE OF UNUSUAL OCCURANCE ON TRAIN:</u>

		In case gateman observes any thing unusual with a passing train, he shall take following action:
	i)	He shall take prompt action to warn the locopilot / 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 driver / guard by whistling continuously, shouting, gesticulating, throwing ballast on the brake van or by any other means.
	iii)	If locopilot / guard fails to take notice, gateman shall immediately inform the, If connected on telephone, to take appropriate action, under exchange of private number.
	iv)	In case of train parting, gateman shall <u>not</u> show stop hand signal but shall show prescribed signal for train parting.
	v)	He shall endeavour to attract the attention of the locopilot / 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.	<u>ACTION IN AN EMERGENCY AT THE LEVEL CROSSING:</u>
	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 connected by telephone, regarding the defects / obstructions at the gate, under exchange of private number.
	iii)	If there is no response from the Station Master / Cabinman after two or three attempts, he shall first protect the gate and then inform on phone.

<u>THE GATEMAN SHALL PROTECT THE LINE AS UNDER:-</u>	
A] ON DOUBLE LINE SECTION:	
[I].	In the both lines are obstructed The Gateman shall plant a rd banner flag by day and the 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 executive to arrive first.
[ii]	Then he will similarly plant the other red banner flag by day and the red light by night 5 meters away from the site of observation.
[iii]	Gateman shall then proceed to protect the gate along with detonators, and red flags by day and red hand signal lamp by night.
[iii]	Gateman shall proceed exhibiting red flags by day and red light by night on the line on which a train is expected to arrive first, to a point 600 Mtrs on BG and place one detonator on the line. Thereafter he shall proceed to a distance of 1200 Mtrs on BG from the level crossing gate and place 3 detonators on the track 10 Mtrs apart. Having thus protected the line shall return to the level crossing gate picking up the intermediate detonator on this way back.
[iv]	Thereafter he shall proceed on the other line, showing red hand signal, similarly place the detonators as described in Para (4) about and return to the site of obstruction, picking up the intermediate detonator on this way back.
[v]	Having returned to the gate, he must then take steps to remove the obstruction and warn the driver of the approaching train.
[vi]	<u>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 the distance as far away as he can go.</u>
[vii]	Thereafter, he shall warn the loco pilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly
b) <u>ON SINGLE LINE SECTION:</u>	
i)	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 direction from 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 towards the other direction 5 meters away from the site of obstruction.
iii)	Gateman shall then proceed to protect the gate along with detonators, 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 towards the direction from 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 meters 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 towards the other direction, 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 locopilot 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 warn the locopilot and stop the approaching train by waving his red flag by day red hand signal lamp by night repeatedly.
		c)	<u>OTHER ACTION TO BE TAKEN BY GATEMAN:</u>
		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 paras (a) and (b) 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 through means available.
1.6			<u>ENGINEERING ITEMS:</u>
			Please see para 916, 918, 919 of IRPWM for visibility requirements at level crossings, provision of speed breakers on the approaching roads of level crossings and census of traffic at level crossings.
1.7			<u>SPECIAL INSTRUCTIONS FOR DIFFERENT TYPES OF LEVEL CROSSINGS:</u>
			Instructions for different types of manned Level Crossing Gates are given in Annexure- V as follows:
	i)	<u>Annexure – V:</u>	Engineering Level Crossing Gate, non-interlocked, provided with telephone, with normal position 'Closed to road traffic'.
			<u>WORKING INSTRUCTIONS FOR ENGINEERING LEVEL CROSSING GATES, NON-INTERLOCKED, PROVIDED WITH TELEPHONE, WITH NORMAL POSITION "CLOSED TO ROAD TRAFFIC"(KR-13 & KR-14)</u> <u>(General Instructions are common for all types of Manned Level Crossing Gates)</u>
1.			<u>MODE OF OPERATION and EXCHANGE OF PRIVATE NUMBER:</u>

		Detailed mode of operation for opening and closing the level crossing gate shall be provided in the respective Station Working Rules and Gate Working Instructions incorporating local operational requirements. When level crossing gate is required to be opened for passage of road traffic, the gateman will operate the winch after following the instructions given in Para-2 item (i) to (vi).
2.	EXCHANGE OF PRIVATE NUMBER	
	(i)	The normal position of the level crossing gate being “closed to road traffic” it should be always be in closed condition against road traffic, except when, it is opened for passage of road traffic over the level crossing, subject to conditions prescribed below.
	(ii)	The Station Master/Cabin master before permitting each train to enter into the block section shall ask gateman on the telephone by giving a private number whether, the 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/cabin master in assurance of gate being closed & locked against road traffic.
	(iii)	The station master/ Cabin master shall not permit any train to enter the block section, unless he is assured off 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 exchange any private number as per item (ii) above or 2. If he has exchanged private number with Station master/Cabin master the whole of the train with last vehicle indicator has passed over the level crossing gate and the Station master/Cabin master has not exchange the private number with him for any other movement immediately in rear of the 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 distance of 5m away from the gate. Then he shall open the gate for passing the road traffic keeping red flag/red hand signal lamp ready in his hand to stop approaching train if any.
	(v)	In case the gateman is not responding on the telephone or in case the telephone becomes defective or private number is received from the gateman, the Station master shall adhere to the procedure prescribed in SR 16.03.02 below.
	(vi)	In the event of failure of telephone if the gate is required to be opened for the passage of the 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, 5m away from the gate on the track on either side. He will thereafter open the gate for passing the road traffic keeping the red flag/red hand signal lamp ready in his hand to stop approaching train if any.
3.	<u>FAILURE OF TELEPHONIC COMMUNICATION:</u>	

	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)	Station Master at the dispatching end shall issue a caution order to the driver of the departing train.
	ii)	The caution order shall advise the locopilot to whistle continuously and approach the gate cautiously.
	iii)	The locopilot shall be instructed to pass the gate cautiously, on being hand signaled by the gateman. If hand signal is not seen, locopilot should be prepared to stop short of the gate and depute his Assistant Locopilot to see the condition of the gate. If the gate is closed, the Assistant Locopilot will give the all right signal and if the gate is not closed the Assistant Locopilot must close the gate and then give all right signal. In the absence of the Assistant Locopilot, the Locopilot 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 driver before dispatching a train in the block section from his end.
	vi)	Station Master shall also advise the gateman through gangman / patrolman or locopilot 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 rectify the telephone and issue reconnection / fit memo for the same.
4.	<u>FAILURE OF LIFTING BARRIERS :</u>	
	i)	When the gate cannot be closed due to failure of lifting barriers 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, he shall show green hand signal flag by day and green light by night to the driver of the approaching train.

	v)	Station Master on duty shall issue caution order to the locopilot of a 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 driver before dispatching a train in the block section from his end.
	vii)	He should also advise maintenance staff responsible for maintenance of the lifting barriers / leaf gates to rectify the same at the earliest.
	viii)	Normal working will be resumed only after maintenance staff rectify the lifting barriers and issue reconnection / fit memo for the same.
5.	<u>OBSTRUCTION AT THE GATE:</u>	
	i.	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 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 defects / obstruction 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.	He shall then rush with detonators, and red flag by day and red hand signal lamp by night in the direction of the approaching train and protect the gate as stipulated in General Instruction for duties of gateman under item no.1.5(5).
	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 drivers of all trains to proceed cautiously, and pass the gate 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 cabins and padlocks and there after exhibit green hand signal of the gate is not obstructed.
	xii.	Station Master shall advise maintenance staff responsible for maintaining the lifting barriers to repair the same at the earliest.
	xiii.	Normal working will be resumed only after maintenance staff rectify the defective lifting barriers and issue reconnection / fit memo for the same.
6.	<u>OBSTRUCTION ON THE TRACK NEAR LEVEL CROSSING:</u>	
	If there is a rail fracture or obstruction on the track due to falling of 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.5 above. If the obstruction fouls the Level Crossing Gate he must keep the gates closed against road traffic till the track is cleared of the obstruction.	

APPENDIX 'B'**DETAILS OF SIGNALLING AND INTERLOCKING INSTALLATION AND COMMUNICATION ARRANGEMENTS AT THE TIKIRI STATION****1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATION:**

This is a 'B' Class Station with Standard-II® interlocking (with isolation) with route setting type panel. The points and signals etc are power operated from a composite miniature 'DOMINO TYPE' full-fledged central panel installed in the station Master's office. This Station is equipped with multi aspect colour light signaling. The Handle type Tokenless Single Line block instruments are provided in the SM panel room for section TKRI-RUL & TKRI-SGRM.

1.1 DISCRIPTION OF PANEL:

The yard layout is depicted on the panel and the panel is fixed parallel to the track so that when the Station Master faces the panel, the yard drawing on the panel corresponds to the actual field lay out.

1.2 POINT PUSH BUTTONS:

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 electric point machine is controlled by these point push buttons in conjunction with the point group button (Black with Red dot) (Normal) or (Reverse) as per requirement, fitted on the top of the panel board.

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

1.2.2 When a point is set and locked in REVERSE position, a yellow steady strip light indication in reverse 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 BUTTONS:

SL. NO	POINT BUTTON NO.	COLOUR	DESCRIPTION
1	21 A/B	Black	Cross over point between Main line and line no.1 at RUL end.
2	22 A/B	Black	Cross over point between Main line and line no.3 at SGRM end.
3	23 A/B	Black	Cross over point between Main Line and line no.3 at RUL end.
4	24A/B	Black	Cross-over Point between Main line and line no.1 at SGRM end.
5	26	Black	Isolation Point at UAIL siding connected to line No.1 at SGRM end.
6	27	Black	Control for Goods siding at RUL end.
7	28A/B	Black	Cross-over Point between UAIL siding and Main line at SGRM end.
16	Point Group button (Normal)	Black with Red dot	Common button for normal operation of points
17	Point Group button (Reverse)	Black with Red dot	Common button for reverse operation of points

1.2.8 DESCRIPTION OF POINT GROUP BUTTON:

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

1.3 SIGNAL PUSH BUTTON:

These are Red coloured push buttons on the panel near that 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	C-1GN	Red with white dot	Button for UP calling 'ON' signal for Line No.1 to 3.
2	S-1GN	Red	Button for UP Home signal for Line No.1 to 3.

3	C-2 GN	Red with white dot	Button for DN calling 'ON' signal for Line No.1to 3.
4	S-2 GN	Red	Button for DN Home signal for Line No.1to 3
5	SH-3 GN	Yellow	Button for Shunt Signal for line no.1to 3.
6	SH-4 GN	Yellow	Button for Shunt Signal for Line No.1 to 3.
7	S-5 GN	Red	Button for UP L-3 starter.
8	SH-5 GN	Yellow	Button for Shunt Signal of L-3 for shunting facility in UAIL siding.
9	S-6 GN	Red	Button for DN L-1 starter.
10	S-7 GN	Red	Button for UP L-2 starter.
11	SH-7 GN	Yellow	Button for Shunt Signal of L-2 for shunting facility in UAIL siding.
12	S-8 GN	Red	Button for DN L-2 starter.
13	S-9	Red	Button for UP L-1 starter.
14	SH-9 GN	Yellow	Button for Shunt Signal of L-1 for shunting facility in UAIL siding.
15	S-10	Red	Button for DN L-3 starter.
16	S-11	Red	Button for UP Advanced starter.
17	S-12	Red	Button for DN Advanced starter.
18	SH-14	Yellow	Button for shunt Signal at UAIL siding for shunting facility in all 3 lines at station.

1.3.2 SIGNAL INDICATION:

The aspects of the signals as obtained at any time are shown on the panel on the signal indication along side of the track. The ON aspect indications of stop signals are RED and OFF aspect indications GREEN on panel. The ON aspect of distant signal is yellow and OFF aspect is Green on the panel.

1.4 ROUTE BUTTONS:

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 signal. It is necessary to operate the signal button 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	Common route button for UP and DN Home signal of line No.1 (1 st loop).
2	L-2 UN	White	Common route button for UP and DN Home signals, Calling-on signals and shunt signals of line No. 2 Main line.

3	L3 UN	White	Common route button for UP and DN Home signals, UP & DN Calling-On signals and UP & DN shunt signals of line No. 3 (2 nd loop).
4	UAIL UN	White	Common route button to facilitate shunting on UAIL siding from all the three berthing lines towards SGRM end.
5	11A-UN	White	Common route button for UP starters 5, 7, 9.
6	12A-UN	White	Common route button for DN starters 6, 8, 10.
7	11UN	White	Route button for UP advanced starter no.11.
8	12UN	White	Route button for DN advanced starter no.12.

1.5 CRANK HANDLE PUSH BUTTONS:

Sl no	CRANK HANDLE	CONTROL POINTS
1	CH-1	21 A/B, 23A/B
2	CH-2	22 A/B, 24A/B
3	CH-3	26, 30
4	CH-4	28A/B

1.6 MISCELLANEOUS PUSH BUTTONS:

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

9	SIGNAL LAMP FAILURE /POINT FAILURE ACKNOWLEDGEMENT	RED WITH WHITE DOT	To be pressed for acknowledging signal lamp/point failure
10	EMERGENCY POINT OPERATION	BLACK WITH RED DOT	To be pressed to operate the point when concerned point zone track circuit failed.
11	BUTTON HELD ACKNOWLEDGEMENT PUSH BUTTON	WHITE WITH RED DOT	To be pressed for silencing button held buzzer in case of any push button remains pressed after the button is released.
12	UP TRAIN ARRIVED ACK PUSH BUTTON	CHOCOLATE WITH WHITE DOT	To be pressed for normalizing the Block instrument for section RUL-TKRI.
13	DN TRAIN ARRIVED ACK PUSH BUTTON	CHOCOLATE WITH WHITE DOT	To be pressed for normalizing the Block instrument for section TKRI-SGRM.

1.7 Power failure indication /Buzzer and power acknowledgement:

(A) Power supply:

Normal: Local supply- 230v, 50Hz (Odisha State Electricity Board Supply)

Stand by: DG set & Solar system.

(i) A change over switch is provided in the Station Master's office with two power supplies viz., Local and DG 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.

(ii) There is a remote monitoring ASM box provided at the station to monitor the health of IPS. Power supply to the signaling installation is through Integrated power supply system. The IPS is normally fed through Local supply. The standby power supply is through two numbers of Diesel Generators and Solar system. The available Local/DG supply is fed to the IPS through auto change over switch provided in SM's office. Through auto change over switch the DG set power supply will be extended to the IPS.

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

(B) Remote Monitoring:

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

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

In the event of failure of Remote Monitoring ASM console due to any reason when Local power supply is failed, the SM on duty shall start DG set immediately. In case “call S&T staff” or “system shut down” appears on the Remote Monitoring panel of IPS and/or malfunctioning of the Remote Monitoring panel, SM on duty shall inform the same to concerned S&T staff immediately.

1.7.1 LED SIGNAL FAILURE INDICATION (RED SIGNAL LAMP MUTING BUTTON: RED WITH WHITE DOT):

Whenever LED signal becomes blank, a miniature flashing red light indication appears along with an audio buzzer indicates signal lamp failure. The SM on duty shall press the signal lamp/point failure Ack. Button, there by the buzzer stops but the red indication lamp becomes steady which continues till either LED signal is replaced /rectified or signal assumes other aspect.

1.8 POINT FAILURE INDICATION (RED)/POINT FAILURE BUZZER/POINTS FAILURE MUTING BUTTON (RED WITH WHITE DOT):

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

1.9 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.

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

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

3. 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) for emergency point operation is provided on the top of the Panel. If such operation is necessary, the SM on duty, after ensuring that SM's point Key is 'IN' and no vehicle is standing on the concerned point zone shall press the emergency point operation button (by breaking the seal) along with relevant point button simultaneously. Then keeping point button pressed, emergency point button to be released and the point group normal button or point group reverse button is to be pressed for operating the point to 'NORMAL or REVERSE. Every emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

Each emergency point operation is recorded in emergency point operation counter by registering the next higher number. SM on duty shall ensure sealing of emergency point operation button by S&T staff after completion of every such operation.

4.0 BUTTON HELD ACKNOWLEDGEMENT (WHITE WITH RED DOT):

All push buttons are self restoring type. A button held acknowledgement push button along with a white light is positioned at the top of the panel. When any point, route or signal button gets stuck up 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 indication of each point; route or signal will continue to glow until the pressed button is normalized. SM on duty shall try to find out the pressed button for normalization or otherwise inform the maintenance staff to rectify.

5.0 OVER LAP TIME RELEASE(WHITE LIGHT):

Separate indications (white light) for each overlap is provided near the starter signal to indicate the free or locked condition of the overlap. This indication light will glow when overlap is locked by any Home signal route and there will be no light when the 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 lapse of 120 sec the white flashing light will disappear indicating concerned over lap is free.

6.0 TRACK CIRCUIT:

Entire yard is track circuited from Home signal to Advanced starter on either direction.

The following track circuits are provided in this yard.

1AT, 1T, 12AT, 21T, 23T, L₁T₁, L₁T₂, L₁T₃, L₂T₁, L₂T₂, L₂T₃, L₃T₁, L₃T₂, L₃T₃, 24AT, 24BT, 22T, 28AT, 28AT₁, 28BT₁, 11AT, 2T and 2AT. Indications for the above track circuits are available on Panel at SM's office. Normally the panel is blank except point and Block section indications for the above track circuits/ Axle counters are available on Panel at SM's office. When a signal is cleared the route indication 'Yellow' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

7. AXLE COUNTER:

Entire Block Section between TKRI-RUL and TKRI-SGRM are provided with Electronic Axle counters.

For section TKRI-RUL & TKRI-SGRM:

Entire block section between TKRI-RUL & TKRI-SGRM is provided with digital axle counter.

For section TKRI-RUL:

A pair of digital axle counter is provided between TKRI-RUL one just beyond DN advanced starter signal no. 12 of TKRI and another beyond DN Home signal of RUL for last vehicle verification.

For section TKRI-SGRM:

A pair of digital axle counter is provided between TKRI-SGRM one just beyond UP advanced starter signal no. 11 of TKRI and another beyond UP Home signal of SGRM for last vehicle verification.

The position of the block section whether 'clear' or 'occupied' is reflected on the axle counter reset box provided in the Station Master's office which shows 'GREEN' when the block section is clear and 'RED' when block section is occupied. Whenever a train enters into the block section "Block section clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears.

After complete arrival of the train the 'RED' indication disappears and 'GREEN' indication appears. If after complete arrival of the train '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 cannot be taken off for next train and the concerned instrument shall remain locked in last operated position.

A resetting arrangement is provided in the SM office to reset the system to normal position in case of failure of axle counter. The resetting is to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at either end of the block section.

NOTE:

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

8. STATION MASTER'S PANEL CONTROL KEY:

The panel is fitted with Station Master's lock up key to prevent any unauthorized operation of the panel. The Station Master on duty is the only authorized person to operate the panel and the panel key must always remain in his custody vide SR 3.36.02 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 cancellation button without ASM's key also. However the provisions of SR 3.36.02 shall be followed while replacing signals also.

9. 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 extraction from RKT. This is called ‘Crank handle key locked’ indication.

For extracting CH key from RKT SM has to press relevant crank handle push button and group TRANS button simultaneously. The light 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 cannot be operated from the panel. After completion of point operation, the CH key will be retransmitted to the station electrically by inserting the CH key in RKT in 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).

Crank handle control for operation of points:

SL No	CRANK HANDLE	CONTROL POINTS
1	CH-1	21 A/B, 23 A/B
2	CH-2	22 A/B, 24 A/B
3	CH-3	26, 30
4	CH-4	28A/B

9.1 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 and route button. As soon as the required points are set to the required position, the concerned signal for the route will clear and a Yellow strip of light will appear on the route confirming that the route is set and locked. The signal ‘OFF’ indication will appear on the panel.

9.2 SETTING OF ROUTE AND TAKING OFF DEPARTURE SIGNALS:

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

To take ‘OFF’ UP advanced starter signal no.11, UP LV section between TKRI-SGRM should be clear and Line clear must be obtained from the concerned Block section in advance. Then the concerned advanced starter signal button shall be pressed along with the concerned route button for two or three seconds and released. This will clear the Up advanced starter signal and a white strip of light will appear on the panel.

To take ‘OFF’ DN advanced starter signal no.12, DN LV section between TKRI-RUL should be clear and Line clear must be obtained from the concerned Block section in rear. Then the concerned advanced starter signal button shall be pressed along with the concerned route button for two or three seconds and released. This will clear the DN advanced starter signal and a white strip of light will appear on the panel.

To take 'OFF' the starter signal the concerned signal button is pressed and at the same time common route button to be pressed for two or three seconds and released. This will clear the starter signal and a white strip of light will appear on the route from the concerned starter to advanced starter.

9.3 TAKING OFF CALLING ON SIGNAL:

Miniature color 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 Miniature 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 (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 buttons 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 'C-1(A-F)/ C-2(A-F) (Red with White dot) shall be pressed (as the case may be) simultaneously along with the concerned route button for 2 to 3 seconds and then 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.

10. RELEASE/ CANCELLATION OF ROUTE:

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

NOTE:-

UP and DN calling on signals, UP and DN advanced starters are to be manually cancelled after the passage of the train to cancel the route.

11. REPLACEMENT OF SIGNALS TO ON:

Signals are replaced to 'ON' automatically by the occupation of the first track in advance of 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 signal cancellation button (RED) is to be pressed simultaneously.

12. INTERLOCKING OF SIGNALS/POINTS :

All running line points are fitted with point machines which have in built locking and are electrically detected by the relevant Home signals and starters.

12.1 Advanced starter signals are interlocked with respective Block instrument in LINE CLEAR position.

12.2 The Block instruments cannot be made to normal unless the respective Home is put back to 'ON' aspect and the respective block section monitored by axle counter is clear of trains.

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

13. PILOTING OF TRAINS IN TO THE STATION YARD:

Whenever Home signal becomes defective, trains can be admitted by taking off calling-on signal. When both home and calling-on failed, then the trains will be piloted 'IN' in terms of SR 3.69.3(a) &(c)

The SM on duty shall nominate a clear line and shall set the nominated route correctly from the panel or shall advise the TPM on duty at station to set the nominate route with the help of crank handle during failure of points. The TPM shall set the facing and trailing points and clamp and padlock the same under the supervision of SM on duty at station in both the cases.

Then the SM on duty shall then hand over the written authority (T/369(3b)) to the TPM for "piloting IN" the train. While going towards home signal, the TPM shall check that the points have been correctly set, clamped and padlocked. After the train has been brought to a dead stop at the foot of 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 defective home signal.

NOTE:

- 1) The station master on duty shall personally supervise the correct setting, clamping and padlocking of both end points for admission of a train.
- 2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty till such movement is either completed or alternatively cancelled.
- 3) The SM on duty shall ensure the closure of the interlocked gate supported by a private number from the gateman on duty.

13.1 PILOTING OF TRAINS OUT OF STATION YARD:

When starter signal has become defective, the SM on duty shall set the points correctly from the panel or advise the TPM to set the concerned points correctly for the outgoing train with the help of crank handle. The TPM on duty shall clamp and padlock both the facing and trailing end points under supervision of SM on duty in both the cases. He shall also advise the gateman to close the level crossing gate/gates on the route for dispatch of a train.

The SM on duty shall then authorize the TPM on duty to hand over the pilot memo T/369(3b) along with other authorities if any to the Loco Pilot of the train. Thereafter, he shall display proceed hand signal at the foot of the starter signal vide subsidiary rule 3.70.01.

In case advanced starter signal becomes defective BWM 3.33 will be followed.

NOTE:

- (1) The station master on duty shall personally supervise the correct setting, clamping and padlocking of both end points for dispatching of a train.
- (2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty till such movement is either completed or alternatively cancelled.

(3) The SM on duty shall ensure the closure of the interlocked gate supported by a private number from the gateman on duty.

14. SHUNTING:

For shunting SH3, SH-4, SH-5, SH-7, SH-9 and SH-14 are provided in the yard for shunting in desired direction. The particular route on which it is intended to do shunting is to be set by operating the desired points individually from the panel or by pressing the shunt signal button and required route button simultaneously for 2-3 seconds. When the route is set and locked correctly white strip of lights will appear on the route and concerned shunt signal shall display 'OFF' aspect.

15. VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAINS INTO THE 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 passage 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 the track before any movement of trains are permitted on the concerned route subjected to the other conditions such as locking of points etc.

16. CRANK HANDLING EMERGENCY OPERATION OF POINTS:

Crank handle operation is interlocked with the signaling and interlocking system at this station. Key of crank handles normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals leading over the points are in the Normal position and the route is not locked for whatever reasons. Crank Handle can be released by operating common 'TRANS' push button and concerned Crank handle control push button simultaneously. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted at both ends of the yard. On account of the doubtful operation of any track circuit by a light vehicle including self propelled vehicle such as Motor trolley or light Diesel/electrical engine or tower wagon, indicating the occupancy of the track. It is necessary to satisfy SM on duty that the said vehicle has cleared point zone track circuits by observing the track indications on either side of the cross over.

17. EMERGENCY OPERATIONS:

The following are the instructions for emergency operations.

17.1 CANCELLATION BUTTON AND COUNTERS:

17.1.1 For the purpose of the emergency operations there is an emergency Route cancellation button (provided at the top of the panel) and also there is a counter for counting emergency operations involving the concurrent operation of the emergency route cancellation button. The Station Master on duty must press the emergency route button along with concerned signal button for which emergency route releases is desired. A yellow indication will appear below the

signal indicating that the timer has started operating and after lapse of 120 seconds the desired route will be released provided all other conditions are favorable for the route release.

17.1.2 The counter registers the number of such emergency operations performed for such emergency cancellation and the Station Master on duty shall specify the cause for such usage giving the particulars of cause and the time of operation as related to a particular train etc. in the train signal register. The detailed operation instructions are as follows:

17.2 EMERGENCY OPERATIONS CANCELLATION THE LOCKING OF POINTS NOT RELEASED AFTER THE PASSAGE OF THE TRAIN FOR WHAT EVER REASON:

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

- a) Firstly, it must be ensured that the signal is in the ON position.
- b) Operation as detailed in Para 3.0 to be followed.

18.0 LOCKING OF RELAY ROOM:

The relay room shall be locked with a double lock which can be opened only after both the keys are inserted and turned. One key of the lock shall be kept with the Station Master on duty in his custody and other with Maintainer. Whenever required for maintenance, the key in the custody of Station Master shall be given to the Maintainer. After completion of the work the Maintainer be properly recorded in relay room register maintained at the station and duly signed by the Station Master and the Maintainer concerned as per OM 1.14. In addition, the Station Master shall also observe SR 3.51.05.

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

19.1 Regular maintenance of S&T installations and adherence to the schedules of maintenance is also the mandatory schedules of testing of points, track circuits, point machines, level crossing gates, the associated interlocking apparatus i.e., cables and finally the interlocking functional tests is a must for the safe and satisfactory working of those installations at this Station.

19.2 The tests, checks and replacements etc. including overhauling shall confirm to the schedule of maintenance as indicated in the signal engineering manual as also in the current and extent instruction / circulars on the subject.

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

In case of failure of any interlocking gear at the station, the failure report should be communicated by the Station Master on duty through a memo to the Sectional Maintainer and the Signal Engineer of the Section and others as per G& SR 3.51.04 and 3.68.04 and document all such transactions.

20.1 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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

20.2 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

After receipt of this information, the sectional maintainer shall attend to the failure after giving a disconnection memo. After rectification of the fault the sectional maintainer shall give a reconnection memo detailing rectification. Thereafter the Station Master on duty shall personally check the defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective gear in terms of SR 3.64.04 (c) and (d).

21. PROCEDURE FOR CARRYING OUT PLANNED MAINTANANCE WORK:

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

22. EMERGENCIES:

Notwithstanding anything contained in the aforesaid Paras, when equipment is found to be defective and unsafe for passage of trains, the Signal and Telecom. Staff shall at once suspend the working of such equipment and the associated installation and issue a “Suspension Memo” explaining the seriousness of the defect or damage to the interlocking installation to the Station Master and obtain SM’s acknowledgement. After this, the usual practice of issuing disconnection memo and reconnection memo can follow and the Station Master must promptly act on such messages and take adequate precautions treating the S&T installations as defective and pass trains over the affected interlocking gears according to extant instructions as contain in GR & SR 3.77.

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

23.1 When 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 to RKT.

23.2 The cases of failure of Motor Operated Points should be promptly reported to the Concerned Signal maintainer /Signal Inspector for immediate rectification.

23.3 Whenever an emergency Crank handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty; will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the concerned Points will be treated as defective till the Emergency Crank Handle is returned back to the Station Master on duty.

23.4 Before parting with the emergency crank handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to ON position. The Points for the affected lines shall be treated as Non-interlocked. The Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.

23.5 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 usage of the Emergency Crank Handle must be recorded.

24.0 SUSPENSION OF LAST STOP SIGNALS:

24.1 When the Block Instrument is suspended with its handle in 'TRAIN GOING TO' position for whatever reason, the concerned Last Stop Signals controlled by the Block Instrument must be treated as suspended and trains shall be worked on PLCT

24.2 The Station Master on duty shall not grant LINE CLEAR unless he has ensured that the lamps of fixed signals which apply to the trains are glowing. If the Signal Lights are not glowing the Station Master on duty shall before giving LINE CLEAR shall initiate action in accordance with the procedure prescribed in GR 3.68 to 3.71 and relevant SR's vide GR 3.49(4).

25. NORMALISATION OF THE BLOCK SECTION AXLE COUNTER AND BLOCK WORKING BY RESETTING FEATURE:

25.1 Axle counters are provided on UP and DN lines between TKRI-RUL and TKRI-SGRM Single line section for Block proving.

25.2 The occupation and clearance of the axle counter section are indicated on panel by 'Red' and 'Green' lights.

25.3 If any Block proving Axle counter section fails, the Last stop signal at the rear station cannot be taken 'OFF' and Block instrument at advance station cannot be turned to "Line Closed" position after arrival of a train and in such case, resetting of last vehicle checking device is to be resorted to in either section.

25.4 Even after completion of reset operation, LVCD Axle counter will show clear only if next train is piloted out.

25.5 No train should be allowed on signal to leave a station in any particular direction unless:-

Track clear indication is available for the relevant axle counter track circuited portion and Last stop signal is not taken 'OFF'.

25.6 A resetting arrangement for the resumption of the track circuit by means of axle counter under failure condition at either end station of the Block section is provided, which should only be resorted to after the train that was lastly sent, arrives fully at the at the receiving station and is certified in this respect by the SM at the receiving station through exchange of Private Number.

25.7 Reset arrangements are provided in the Reset Box in the SM's office for Sections TKRI-RUL and TKRI-SGRM. The key for the Reset Box should normally be kept with SM. And for every such operation of the resetting the Axle Counter, the SM on duty shall record giving details of the date of use, train number, time, and number registered on the counter and reasons for resetting and initial each such entry.

26.0 RESETTING OF LVV DIGITAL AXLE COUNTER:

i) Whenever after complete arrival of train, the LVV axle counter continue to show 'RED' on the panel board, the on duty SS/SM at both ends of the section shall resort to reset the axle counter. For this purpose SS/SM at receiving end shall first verify that Block section is clear of trains. If the failure has occurred after arrival of train, SS/SM shall obtain signature from the guard of stopping train on the train intact register (vide GR & SR 4.17, 4.17.01) or by exchanging signal with the guard of through train, so that he can ensure that the train has arrived completely before resorting the LVV axle counter. SS/SM of receiving end shall inform the failure of axle counter to on duty SS/SM of dispatching end for UP/DN section.

ii) SS/SM at receiving end then sends an operating person to verify that the last vehicle is clear of Block section. After verifying the clearance of last vehicle of concerned block section, the operating person exchanges private number and press the button in the LVV box.

iii) On exchanging private number the SS/SM at both ends will insert the reset key for corresponding section and shall press the nominated reset button. By this operation LVV axle counter will reset and associated counter will change to next higher number at both ends.

iv) SS/SM at both ends shall record the counter number so changed due to reset of axle counter in the reset register and also in the Train signal register mentioning the purpose of reset. After the reset operation is completed preparatory reset indication will appear on reset box at both ends which suggests that the reset operation is successfully completed and the first train has to be piloted out. On arrival of the piloted train the axle counter track cct zone of the section shows clear and normal working shall be resumed. Even after arrival of piloted train, LVV axle counter zone does not show clear indication, S&T staff to be informed for getting rectified the failure of axle counter.

v) It is mandatory that every reset operation of LVV axle counter first train after reset process shall have to be piloted out.

27. SIGNAL LIGHTS:

The station Master on duty at 00.00 hrs (2nd 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.

28. 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 Hrs every day according to GR and SR 4.01.01 and 4.01.02.

29. TELECOMMUNICATIONS:

(a) Telephone attached to Token less Block Instruments is connected to adjacent stations on either side.

(b) Hot line Telephone communication is provided between adjacent stations.

- (C)The station is connected to KRPU-RGDA control Circuit.
- (d)Telephone communication is provided between Station Master on duty to UP CH locations and to DN CH Locations.
- (e) Telephone communication is provided between Station Master on duty and UAIL implant yard.
- (f) 25w VHF set is provided at the station for emergency communication.
- (g)BSNL telephone is provided at this station.

**APPENDIX 'C' TO STATION WORKING RULES OF TIKIRI STATION
ANTI COLLISION DEVICE [[RAKSHA KAVACH]:**

-NIL-

APPENDIX 'D'**DUTIES TO BE PERFORMED BY THE STAFF AT TIKIRI STATION:****1. Station Superintendent/Station Master:**

- i) He shall come on duty after taking complete rest and shall not perform his duty under the influence of drugs or intoxicants.
- ii) When on duty or when called upon to do so, in case of emergency, he shall be responsible for obtaining and granting line clear to trains as per SWR & OM Para No. 2.02 (e).
- iii) He shall handle the control panel himself when on duty and shall not permit any unauthorized person to manipulate panel.
- iv) He shall keep the SM's control keys of control panel in his personal custody whenever, he is required to leave his office even for a short duration.
- v) While coming on duty, he shall ensure that all points and signals are in good working order and all the registers, records, pertaining to train passage are completed in all respect before taking over the charge.
- vi) He shall personally ensure that conditions for taking 'off' the reception signals are fulfilled and the clearance of line is verified as per SWR before actually pressing the relevant button for taking off the signals.
- vii) He shall ensure from indications available in the panel that the signals are burning brightly and are giving correct indications.
- viii) He shall ensure that proper indications of points, signals, track circuits, crank handle, level crossing gate etc., are displayed at their proper places.
- ix) He shall ensure that all Shunting operations are carried out as per extant orders and GR 5.19 and SRs thereof.
- x) He shall inform the Technician/JE/SE(sig) in writing or through a written message, any failure of track/signals/points/keys or panels etc. and shall invariably enter these failures in Signals Failure Register.

2. TRAFFIC POINTSMAN/TOKEN PORTERS:

- i) He shall obey all lawful orders of the ASM/SM/SS on duty or official in-charge supervising the shunting during the course of shunting operations including coupling or uncoupling of vehicles, wagons, fixing rubber washers, closing wagon doors, displaying hand signals etc.
- ii) He shall exhibit danger signal to the official supervising the shunting if vehicles are fouled during the shunting operation.
- iii) He shall pilot the trains in case of abnormal working and when ordered by the SS 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.

STATION WORKING RULES OF TIKIRI(TKRI)

- 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

(B.M.VENKATESWARLU)
DSTE/WAT

David Ralf
Sr.DEN(N)/WAT

(K.SIVA HARHA)
DOM/ WAT

APPENDIX 'E' TO STATION WORKING RULES OF TIKIRI STATION:**ESSENTIAL EQUIPMENT:**

A list of essential equipment's is given below which shall be maintained in good Working order as per OM 2015, Para no. 11.15.

Sl. No	Description	Station
1.	Detonators	20
2.	LED based tri colour flashing torch.	3(1 Spare)
3.	Hand Signal Flags	3(1 Spare)
4.	Iron Skids	6
5.	Safety chains with Pad locks	6
6.	Fire & Sand buckets	5
7.	Minimax Fire Extinguishers DCPT	2
8.	Reminder collars	8
9.	Motor trolley on line board	2
10.	Block Suspension board	2

APPENDIX 'F' TO STATION WORKING RULES OF TIKIRI STATION:

WORKING OF UAIL INPLANT YARD TRAINS FROM TIKIRI:

- i. UAIL siding is taken off from Line No.1 towards Singaram End is isolated by D/S 30 at CH:379.12M towards siding and is isolated by point no.26 of sand hump towards station.
- ii. For every movement between TIKIRI and UAIL INPLANT YARD for reception/dispatch of trains from/to, it should be supported with private number exchange between the concerned SM's i.e SM-Tikiri and UAIL INPLANT YARD.
- iii. Point to point communication facility is provided between Tikiri station and UAIL INPLANT YARD.

PROCEDURE FOR ENTRY OF TRAIN FROM UAIL INPLANT YARD INTO TKRI YARD:

- i. When a train is ready in all respect at UAIL INPLANT YARD the UAIL YARD representative shall intimate the description of the train viz. Train no. load/empty, destination, commodity, departure time and last vehicle number to the SM on duty at Tikiri station.
- ii. The SM/TKRI shall not grant Line clear through telephone to SM of UAIL siding without ensuring that the section between TKRI-RUL is not blocked with UAIL bound trains.
- iii. SM/TKRI shall grant Line clear to SM/UAIL siding through telephone under exchange of private number after ensuring that there is no train on Line clear from RUL towards UAIL siding. The UAIL INPLANT YARD officials shall intimate about the departure of the train to SS/TKRI on duty over telephone.
- iv. After ensuring that the trains from UAIL siding have come to a stop at SH-14, the SM/TKRI shall set the nominated route and will take off the shunt signal.
- v. After the complete arrival of the train in to the Tikiri station the loco pilot of the train shall satisfy himself that the train has arrived complete and confirm the same duly signing in the complete arrival register.
- vi. The SM/TKRI after the complete arrival of the train shall normalize the route under exchange of private number.

PROCEDURE FOR SENDING OF TRAIN FROM TIKIRI TO UAIL INPLANT YARD:

- i. To send a train towards UAIL siding, the SM on duty shall ensure that the line between TIKIRI to UAIL INPLANT YARD is clear of all obstructions duly exchanging PN.

- ii. The SM/TKRI should not give Line clear to SM/RUL for UAIL bound trains without ensuring that no train from UAIL siding has been granted Line clear for entry into TKRI yard.
- iii. SM/TKRI after ensuring that the train for UAIL siding has arrived completely on to concerned line of TKRI yard from RUL, shall then set the route to UAIL siding and shall take off concerned shunt signal.
- iv. SM/TKRI then shall inform the SM in-charge of UAIL siding about the departure and the last vehicle number, if the train is proceeding without guard and the telephone.
- v. After the train has arrived complete at the UAIL INPLANT yard with its last vehicle the UAIL INPLANT in-charge shall confirm the same to the SM on duty TKRI station supported by private number.
- vi. For this purpose private number books shall be given to siding in-charge (One at a time) and brief them regarding the procedure for using the book and the importance to keep the book under personal custody of the siding in-charge of each time.

NOTE: It is the responsibility of SM/TKRI to ensure that the train has arrived completely with last vehicle in the siding and close the section between UAIL & TKRI supported by a private number to SM/In-charge of UAIL siding.

SECURING OF VEHICLES IN SIDING, COLLIERY SIDINGS ETC.

- i. Users of assisted and private sidings and outlaying Railway siding are responsible for the safety of the vehicles placed at such siding intended for them (for loading or unloading) and the derailment and damage.
- ii. The responsibility of the user begins from time the Railway locomotive leaves the siding after placing the vehicles. The user's representative will thereafter take necessary precautions as required.

APPENDIX- 'G'

TIKIRI STATION

RULES FOR WORKING OF TRAINS IN ELECTRIFIED SECTIONS:

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APPENDIX 'B'**DETAILS OF SIGNALLING AND INTERLOCKING INSTALLATION AND COMMUNICATION ARRANGEMENTS AT THE TIKIRI STATION****1. BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALLATION:**

This is a 'B' Class Station with Standard-II® interlocking (with isolation) with route setting type panel. The points and signals etc are power operated from a composite miniature 'DOMINO TYPE' full-fledged central panel installed in the station Master's office. This Station is equipped with multi aspect colour light signaling. The Handle type Tokenless Single Line block instruments are provided in the SM panel room for section TKRI-RUL & TKRI-SGRM.

1.1 DISCRIPTION OF PANEL:

The yard layout is depicted on the panel and the panel is fixed parallel to the track so that when the Station Master faces the panel, the yard drawing on the panel corresponds to the actual field lay out.

1.2 POINT PUSH BUTTONS:

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 electric point machine is controlled by these point push buttons in conjunction with the point group button (Black with Red dot) (Normal) or (Reverse) as per requirement, fitted on the top of the panel board.

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

1.2.2 When a point is set and locked in REVERSE position, a yellow steady strip light indication in reverse 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 BUTTONS:

SL. NO	POINT BUTTON NO.	COLOUR	DESCRIPTION
1	21 A/B	Black	Cross over point between Main line and line no.1 at RUL end.
2	22 A/B	Black	Cross over point between Main line and line no.3 at SGRM end.
3	23 A/B	Black	Cross over point between Main Line and line no.3 at RUL end.
4	24A/B	Black	Cross-over Point between Main line and line no.1 at SGRM end.
5	26	Black	Isolation Point at UAIL siding connected to line No.1 at SGRM end.
6	27	Black	Control for Goods siding at RUL end.
7	28A/B	Black	Cross-over Point between UAIL siding and Main line at SGRM end.
8	Point Group button (Normal)	Black with Red dot	Common button for normal operation of points
9	Point Group button (Reverse)	Black with Red dot	Common button for reverse operation of points
10	30	Black	DS point for isolation of UAIL sdg on L/1

1.2.8 DESCRIPTION OF POINT GROUP BUTTON:

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

1.3 SIGNAL PUSH BUTTON:

These are Red coloured push buttons on the panel near that 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	C-1GN	Red with white dot	Button for UP calling 'ON' signal for Line No.1 to 3.
2	S-1GN	Red	Button for UP Home signal for Line No.1 to 3.

3	C-2 GN	Red with white dot	Button for DN calling 'ON' signal for Line No.1 to 3.
4	S-2 GN	Red	Button for DN Home signal for Line No.1 to 3
5	SH-3 GN	Yellow	Button for Shunt Signal for line no.1 to 3.
6	SH-4 GN	Yellow	Button for Shunt Signal for Line No.1 to 3.
7	S-5 GN	Red	Button for UP L-3 starter.
8	SH-5 GN	Yellow	Button for Shunt Signal of L-3 for shunting facility in UAIL siding.
9	S-6 GN	Red	Button for DN L-1 starter.
10	S-7 GN	Red	Button for UP L-2 starter.
11	SH-7 GN	Yellow	Button for Shunt Signal of L-2 for shunting facility in UAIL siding.
12	S-8 GN	Red	Button for DN L-2 starter.
13	S-9	Red	Button for UP L-1 starter.
14	SH-9 GN	Yellow	Button for Shunt Signal of L-1 for shunting facility in UAIL siding.
15	S-10	Red	Button for DN L-3 starter.
16	S-11	Red	Button for UP Advanced starter.
17	S-12	Red	Button for DN Advanced starter.
18	SH-14	Yellow	Button for shunt Signal at UAIL siding for shunting facility in all 3 lines at station.

1.3.2 SIGNAL INDICATION:

The aspects of the signals as obtained at any time are shown on the panel on the signal indication along side of the track. The ON aspect indications of stop signals are RED and OFF aspect indications GREEN on panel. The ON aspect of distant signal is yellow and OFF aspect is Green on the panel.

1.4 ROUTE BUTTONS:

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 signal. It is necessary to operate the signal button 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	Common route button for UP and DN Home signal of line No.1 (1 st loop).
2	L-2 UN	White	Common route button for UP and DN Home signals, Calling-on signals and shunt signals of line No. 2 Main line.

3	L3 UN	White	Common route button for UP and DN Home signals, UP & DN Calling-On signals and UP & DN shunt signals of line No. 3 (2 nd loop).
4	UAIL UN	White	Common route button to facilitate shunting on UAIL siding from all the three berthing lines towards SGRM end.
5	11A-UN	White	Common route button for UP starters 5, 7, 9.
6	12A-UN	White	Common route button for DN starters 6, 8, 10.
7	11UN	White	Route button for UP advanced starter no.11.
8	12UN	White	Route button for DN advanced starter no.12.

1.5 CRANK HANDLE PUSH BUTTONS:

Sl no	CRANK HANDLE	CONTROL POINTS
1	CH-1	21 A/B, 23A/B
2	CH-2	22 A/B, 24A/B
3	CH-3	26, 30
4	CH-4	28A/B

1.6 MISCELLANEOUS PUSH BUTTONS:

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

9	SIGNAL LAMP FAILURE /POINT FAILURE ACKNOWLEDGEMENT	RED WITH WHITE DOT	To be pressed for acknowledging signal lamp/point failure
10	EMERGENCY POINT OPERATION	BLACK WITH RED DOT	To be pressed to operate the point when concerned point zone track circuit failed.
11	BUTTON HELD ACKNOWLEDGEMENT PUSH BUTTON	WHITE WITH RED DOT	To be pressed for silencing button held buzzer in case of any push button remains pressed after the button is released.
12	UP TRAIN ARRIVED ACK PUSH BUTTON	CHOCOLATE WITH WHITE DOT	To be pressed for normalizing the Block instrument for section RUL-TKRI.
13	DN TRAIN ARRIVED ACK PUSH BUTTON	CHOCOLATE WITH WHITE DOT	To be pressed for normalizing the Block instrument for section TKRI-SGRM.

1.7 Power failure indication /Buzzer and power acknowledgement:

(A) Power supply:

Normal: Local supply- 230v, 50Hz (Odisha State Electricity Board Supply)

Stand by: DG set & Solar system.

(i) A change over switch is provided in the Station Master's office with two power supplies viz., Local and DG 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.

(ii) There is a remote monitoring ASM box provided at the station to monitor the health of IPS. Power supply to the signaling installation is through Integrated power supply system. The IPS is normally fed through Local supply. The standby power supply is through two numbers of Diesel Generators and Solar system. The available Local/DG supply is fed to the IPS through auto change over switch provided in SM's office. Through auto change over switch the DG set power supply will be extended to the IPS.

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

(B) Remote Monitoring:

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

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

In the event of failure of Remote Monitoring ASM console due to any reason when Local power supply is failed, the SM on duty shall start DG set immediately. In case “call S&T staff” or “system shut down” appears on the Remote Monitoring panel of IPS and/or malfunctioning of the Remote Monitoring panel, SM on duty shall inform the same to concerned S&T staff immediately.

1.7.1 LED SIGNAL FAILURE INDICATION (RED SIGNAL LAMP MUTING BUTTON: RED WITH WHITE DOT):

Whenever LED signal becomes blank, a miniature flashing red light indication appears along with an audio buzzer indicates signal lamp failure. The SM on duty shall press the signal lamp/point failure Ack. Button, there by the buzzer stops but the red indication lamp becomes steady which continues till either LED signal is replaced /rectified or signal assumes other aspect.

1.8 POINT FAILURE INDICATION (RED)/POINT FAILURE BUZZER/POINTS FAILURE MUTING BUTTON (RED WITH WHITE DOT):

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

1.9 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.

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

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

3. 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) for emergency point operation is provided on the top of the Panel. If such operation is necessary, the SM on duty, after ensuring that SM's point Key is 'IN' and no vehicle is standing on the concerned point zone shall press the emergency point operation button (by breaking the seal) along with relevant point button simultaneously. Then keeping point button pressed, emergency point button to be released and the point group normal button or point group reverse button is to be pressed for operating the point to 'NORMAL or REVERSE. Every emergency point operation shall be recorded in the station diary and in the register meant for this purpose.

Each emergency point operation is recorded in emergency point operation counter by registering the next higher number. SM on duty shall ensure sealing of emergency point operation button by S&T staff after completion of every such operation.

4.0 BUTTON HELD ACKNOWLEDGEMENT (WHITE WITH RED DOT):

All push buttons are self restoring type. A button held acknowledgement push button along with a white light is positioned at the top of the panel. When any point, route or signal button gets stuck up 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 indication of each point; route or signal will continue to glow until the pressed button is normalized. SM on duty shall try to find out the pressed button for normalization or otherwise inform the maintenance staff to rectify.

5.0 OVER LAP TIME RELEASE(WHITE LIGHT):

Separate indications (white light) for each overlap is provided near the starter signal to indicate the free or locked condition of the overlap. This indication light will glow when overlap is locked by any Home signal route and there will be no light when the 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 lapse of 120 sec the white flashing light will disappear indicating concerned over lap is free.

6.0 TRACK CIRCUIT:

Entire yard is track circuited from Home signal to Advanced starter on either direction.

The following track circuits are provided in this yard.

1AT, 1T, 12AT, 21T, 23T, L₁T₁, L₁T₂, L₁T₃, L₂T₁, L₂T₂, L₂T₃, L₃T₁, L₃T₂, L₃T₃, 24AT, 24BT, 22T, 28AT, 28AT₁, 28BT₁, 28BT, 11AT, 2T and 2AT. Indications for the above track circuits are available on Panel at SM's office. Normally the panel is blank except point and Block section indications for the above track circuits/ Axle counters are available on Panel at SM's office. When a signal is cleared the route indication 'Yellow' appears for the particular route set and 'Red' light appears as the train occupies the track circuit.

7. AXLE COUNTER:

Entire Block Section between TKRI-RUL and TKRI-SGRM are provided with Electronic Axle counters.

For section TKRI-RUL & TKRI-SGRM:

Entire block section between TKRI-RUL & TKRI-SGRM is provided with digital axle counter.

For section TKRI-RUL:

A pair of digital axle counter is provided between TKRI-RUL one just beyond DN advanced starter signal no. 12 of TKRI and another beyond DN Home signal of RUL for last vehicle verification.

For section TKRI-SGRM:

A pair of digital axle counter is provided between TKRI-SGRM one just beyond UP advanced starter signal no. 11 of TKRI and another beyond UP Home signal of SGRM for last vehicle verification.

The position of the block section whether 'clear' or 'occupied' is reflected on the axle counter reset box provided in the Station Master's office which shows 'GREEN' when the block section is clear and 'RED' when block section is occupied. Whenever a train enters into the block section "Block section clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears.

After complete arrival of the train the 'RED' indication disappears and 'GREEN' indication appears. If after complete arrival of the train '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 cannot be taken off for next train and the concerned instrument shall remain locked in last operated position.

A resetting arrangement is provided in the SM office to reset the system to normal position in case of failure of axle counter. The resetting is to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at either end of the block section.

NOTE:

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

8. STATION MASTER'S PANEL CONTROL KEY:

The panel is fitted with Station Master's lock up key to prevent any unauthorized operation of the panel. The Station Master on duty is the only authorized person to operate the panel and the panel key must always remain in his custody vide SR 3.36.02 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 cancellation button without ASM's key also. However the provisions of SR 3.36.02 shall be followed while replacing signals also.

9. 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 extraction from RKT. This is called ‘Crank handle key locked’ indication.

For extracting CH key from RKT SM has to press relevant crank handle push button and group TRANS button simultaneously. The light 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 cannot be operated from the panel. After completion of point operation, the CH key will be retransmitted to the station electrically by inserting the CH key in RKT in 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).

Crank handle control for operation of points:

SL No	CRANK HANDLE	CONTROL POINTS
1	CH-1	21 A/B, 23 A/B
2	CH-2	22 A/B, 24 A/B
3	CH-3	26, 30
4	CH-4	28A/B

9.1 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 and route button. As soon as the required points are set to the required position, the concerned signal for the route will clear and a Yellow strip of light will appear on the route confirming that the route is set and locked. The signal ‘OFF’ indication will appear on the panel.

9.2 SETTING OF ROUTE AND TAKING OFF DEPARTURE SIGNALS:

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

To take ‘OFF’ UP advanced starter signal no.11, UP LV section between

TKRI-SGRM should be clear and Line clear must be obtained from the concerned Block section in advance. Then the concerned advanced starter signal button shall be pressed along with the concerned route button for two or three seconds and released. This will clear the Up advanced starter signal and a white strip of light will appear on the panel.

To take ‘OFF’ DN advanced starter signal no.12, DN LV section between

TKRI-RUL should be clear and Line clear must be obtained from the concerned Block section in rear. Then the concerned advanced starter signal button shall be pressed along with the concerned route button for two or three seconds and released. This will clear the DN advanced starter signal and a white strip of light will appear on the panel.

To take 'OFF' the starter signal the concerned signal button is pressed and at the same time common route button to be pressed for two or three seconds and released. This will clear the starter signal and a white strip of light will appear on the route from the concerned starter to advanced starter.

9.3 TAKING OFF CALLING ON SIGNAL:

Miniature color 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 Miniature 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 (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 buttons 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 'C-1(A-C)/ C-2(A-C) (Red with White dot) shall be pressed (as the case may be) simultaneously along with the concerned route button for 2 to 3 seconds and then 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.

10. RELEASE/ CANCELLATION OF ROUTE:

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

NOTE:-

UP and DN calling on signals, UP and DN advanced starters are to be manually cancelled after the passage of the train to cancel the route.

11. REPLACEMENT OF SIGNALS TO ON:

Signals are replaced to 'ON' automatically by the occupation of the first track in advance of 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 signal cancellation button (RED) is to be pressed simultaneously.

12. INTERLOCKING OF SIGNALS/POINTS :

All running line points are fitted with point machines which have in built locking and are electrically detected by the relevant Home signals and starters.

12.1 Advanced starter signals are interlocked with respective Block instrument in LINE CLEAR position.

12.2 The Block instruments cannot be made to normal unless the respective Home is put back to 'ON' aspect and the respective block section monitored by axle counter is clear of trains.

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

13. PILOTING OF TRAINS IN TO THE STATION YARD:

Whenever Home signal becomes defective, trains can be admitted by taking off calling-on signal. When both home and calling-on failed, then the trains will be piloted 'IN' in terms of SR 3.69.3(a) &(c)

The SM on duty shall nominate a clear line and shall set the nominated route correctly from the panel or shall advise the TPM on duty at station to set the nominate route with the help of crank handle during failure of points. The TPM shall set the facing and trailing points and clamp and padlock the same under the supervision of SM on duty at station in both the cases.

Then the SM on duty shall then hand over the written authority (T/369(3b)) to the TPM for "piloting IN" the train. While going towards home signal, the TPM shall check that the points have been correctly set, clamped and padlocked. After the train has been brought to a dead stop at the foot of 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 defective home signal.

NOTE:

- 1) The station master on duty shall personally supervise the correct setting, clamping and padlocking of both end points for admission of a train.
- 2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty till such movement is either completed or alternatively cancelled.
- 3) The SM on duty shall ensure the closure of the interlocked gate supported by a private number from the gateman on duty.

13.1 PILOTING OF TRAINS OUT OF STATION YARD:

When starter signal has become defective, the SM on duty shall set the points correctly from the panel or advise the TPM to set the concerned points correctly for the outgoing train with the help of crank handle. The TPM on duty shall clamp and padlock both the facing and trailing end points under supervision of SM on duty in both the cases. He shall also advise the gateman to close the level crossing gate/gates on the route for dispatch of a train.

The SM on duty shall then authorize the TPM on duty to hand over the pilot memo T/369(3b) along with other authorities if any to the Loco Pilot of the train. Thereafter, he shall display proceed hand signal at the foot of the starter signal vide subsidiary rule 3.70.01.

In case advanced starter signal becomes defective BWM 3.33 will be followed.

NOTE:

- (1) The station master on duty shall personally supervise the correct setting, clamping and padlocking of both end points for dispatching of a train.
- (2) The keys of padlock used for clamps on the points shall be kept in the personal custody of SM on duty till such movement is either completed or alternatively cancelled.

(3) The SM on duty shall ensure the closure of the interlocked gate supported by a private number from the gateman on duty.

14. SHUNTING:

For shunting SH3, SH-4, SH-5, SH-7, SH-9 and SH-14 are provided in the yard for shunting in desired direction. The particular route on which it is intended to do shunting is to be set by operating the desired points individually from the panel or by pressing the shunt signal button and required route button simultaneously for 2-3 seconds. When the route is set and locked correctly white strip of lights will appear on the route and concerned shunt signal shall display 'OFF' aspect.

15. VERIFICATION OF LINE CLEARANCE BY STATION MASTER ON DUTY FOR RECEPTION OF TRAINS INTO THE 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 passage 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 the track before any movement of trains are permitted on the concerned route subjected to the other conditions such as locking of points etc.

16. CRANK HANDLING EMERGENCY OPERATION OF POINTS:

Crank handle operation is interlocked with the signaling and interlocking system at this station. Key of crank handles normally locked inside the RKT instrument at the respective Crank Handles Locations. Crank handle keys can be taken out only when all signals leading over the points are in the Normal position and the route is not locked for whatever reasons. Crank Handle can be released by operating common 'TRANS' push button and concerned Crank handle control push button simultaneously. When this key is taken out, no signal to the concerned point can be taken 'OFF' in the yard. This key can be electrically transmitted at both ends of the yard. On account of the doubtful operation of any track circuit by a light vehicle including self propelled vehicle such as Motor trolley or light Diesel/electrical engine or tower wagon, indicating the occupancy of the track. It is necessary to satisfy SM on duty that the said vehicle has cleared point zone track circuits by observing the track indications on either side of the cross over.

17. EMERGENCY OPERATIONS:

The following are the instructions for emergency operations.

17.1 CANCELLATION BUTTON AND COUNTERS:

17.1.1 For the purpose of the emergency operations there is an emergency Route cancellation button (provided at the top of the panel) and also there is a counter for counting emergency operations involving the concurrent operation of the emergency route cancellation button. The Station Master on duty must press the emergency route button along with concerned signal button for which emergency route releases is desired. A yellow indication will appear below the

signal indicating that the timer has started operating and after lapse of 120 seconds the desired route will be released provided all other conditions are favorable for the route release.

17.1.2 The counter registers the number of such emergency operations performed for such emergency cancellation and the Station Master on duty shall specify the cause for such usage giving the particulars of cause and the time of operation as related to a particular train etc. in the train signal register. The detailed operation instructions are as follows:

17.2 EMERGENCY OPERATIONS CANCELLATION THE LOCKING OF POINTS NOT RELEASED AFTER THE PASSAGE OF THE TRAIN FOR WHAT EVER REASON:

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

- a) Firstly, it must be ensured that the signal is in the ON position.
- b) Operation as detailed in Para 3.0 to be followed.

18.0 LOCKING OF RELAY ROOM:

The relay room shall be locked with a double lock which can be opened only after both the keys are inserted and turned. One key of the lock shall be kept with the Station Master on duty in his custody and other with Maintainer. Whenever required for maintenance, the key in the custody of Station Master shall be given to the Maintainer. After completion of the work the Maintainer be properly recorded in relay room register maintained at the station and duly signed by the Station Master and the Maintainer concerned as per OM 1.14. In addition, the Station Master shall also observe SR 3.51.05.

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

19.1 Regular maintenance of S&T installations and adherence to the schedules of maintenance is also the mandatory schedules of testing of points, track circuits, point machines, level crossing gates, the associated interlocking apparatus i.e., cables and finally the interlocking functional tests is a must for the safe and satisfactory working of those installations at this Station.

19.2 The tests, checks and replacements etc. including overhauling shall confirm to the schedule of maintenance as indicated in the signal engineering manual as also in the current and extent instruction / circulars on the subject.

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

In case of failure of any interlocking gear at the station, the failure report should be communicated by the Station Master on duty through a memo to the Sectional Maintainer and the Signal Engineer of the Section and others as per G& SR 3.51.04 and 3.68.04 and document all such transactions.

20.1 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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

20.2 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

After receipt of this information, the sectional maintainer shall attend to the failure after giving a disconnection memo. After rectification of the fault the sectional maintainer shall give a reconnection memo detailing rectification. Thereafter the Station Master on duty shall personally check the defective apparatus. After satisfying himself that the gear is in good and proper working order, he shall resume the normal working of the said defective gear in terms of SR 3.64.04 (c) and (d).

21. PROCEDURE FOR CARRYING OUT PLANNED MAINTANANCE WORK:

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

22. EMERGENCIES:

Notwithstanding anything contained in the aforesaid Paras, when equipment is found to be defective and unsafe for passage of trains, the Signal and Telecom. Staff shall at once suspend the working of such equipment and the associated installation and issue a “Suspension Memo” explaining the seriousness of the defect or damage to the interlocking installation to the Station Master and obtain SM’s acknowledgement. After this, the usual practice of issuing disconnection memo and reconnection memo can follow and the Station Master must promptly act on such messages and take adequate precautions treating the S&T installations as defective and pass trains over the affected interlocking gears according to extant instructions as contain in GR & SR 3.77.

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

23.1 When 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 to RKT.

23.2 The cases of failure of Motor Operated Points should be promptly reported to the Concerned Signal maintainer /Signal Inspector for immediate rectification.

23.3 Whenever an emergency Crank handle is required to be used by a Signal Official for maintenance of work attending to failure, the Signal Official will give a disconnection memo to the Station Master on duty and after making necessary entries in the emergency Crank Handle register, the Station Master on duty; will obtain acknowledgement of the Signal Official in the emergency Crank Handle Register and then handover to him the emergency Crank Handle for the Points concerned. All the concerned Points will be treated as defective till the Emergency Crank Handle is returned back to the Station Master on duty.

23.4 Before parting with the emergency crank handle either for attending failure or for Maintenance work by Signal Maintenance Officials, the Station Master on duty will ensure that the reception and departure Signals are put back to ON position. The Points for the affected lines shall be treated as Non-interlocked. The Station Master on duty is responsible for introduction of Non-interlocked working and the trains will piloted IN and OUT duly clamping and Padlocking the Points, both in facing and trailing directions over which the train is to pass, as per GR 3.69 and 3.70 with relevant SR's. The Station Master on duty will be personally responsible for setting and locking of Points, for reception and dispatch of all trains.

23.5 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 usage of the Emergency Crank Handle must be recorded.

24.0 SUSPENSION OF LAST STOP SIGNALS:

24.1 When the Block Instrument is suspended with its handle in 'TRAIN GOING TO' position for whatever reason, the concerned Last Stop Signals controlled by the Block Instrument must be treated as suspended and trains shall be worked on PLCT

24.2 The Station Master on duty shall not grant LINE CLEAR unless he has ensured that the lamps of fixed signals which apply to the trains are glowing. If the Signal Lights are not glowing the Station Master on duty shall before giving LINE CLEAR shall initiate action in accordance with the procedure prescribed in GR 3.68 to 3.71 and relevant SR's vide GR 3.49(4).

25. NORMALISATION OF THE BLOCK SECTION AXLE COUNTER AND BLOCK WORKING BY RESETTING FEATURE:

25.1 Axle counters are provided on UP and DN lines between TKRI-RUL and TKRI-SGRM Single line section for Block proving.

25.2 The occupation and clearance of the axle counter section are indicated on panel by 'Red' and 'Green' lights.

25.3 If any Block proving Axle counter section fails, the Last stop signal at the rear station cannot be taken 'OFF' and Block instrument at advance station cannot be turned to "Line Closed" position after arrival of a train and in such case, resetting of last vehicle checking device is to be resorted to in either section.

25.4 Even after completion of reset operation, LVCD Axle counter will show clear only if next train is piloted out.

25.5 No train should be allowed on signal to leave a station in any particular direction unless:-

Track clear indication is available for the relevant axle counter track circuited portion and Last stop signal is not taken 'OFF'.

25.6 A resetting arrangement for the resumption of the track circuit by means of axle counter under failure condition at either end station of the Block section is provided, which should only be resorted to after the train that was lastly sent, arrives fully at the at the receiving station and is certified in this respect by the SM at the receiving station through exchange of Private Number.

25.7 Reset arrangements are provided in the Reset Box in the SM's office for Sections TKRI-RUL and TKRI-SGRM. The key for the Reset Box should normally be kept with SM. And for every such operation of the resetting the Axle Counter, the SM on duty shall record giving details of the date of use, train number, time, and number registered on the counter and reasons for resetting and initial each such entry.

26.0 RESETTING OF LVV DIGITAL AXLE COUNTER:

- i) Whenever after complete arrival of train, the LVV axle counter continue to show 'RED' on the panel board, the on duty SS/SM at both ends of the section shall resort to reset the axle counter. For this purpose SS/SM at receiving end shall first verify that Block section is clear of trains. If the failure has occurred after arrival of train, SS/SM shall obtain signature from the guard of stopping train on the train intact register (vide GR & SR 4.17, 4.17.01) or by exchanging signal with the guard of through train, so that he can ensure that the train has arrived completely before resorting the LVV axle counter. SS/SM of receiving end shall inform the failure of axle counter to on duty SS/SM of dispatching end for UP/DN section.
- ii) SS/SM at receiving end then sends an operating person to verify that the last vehicle is clear of Block section. After verifying the clearance of last vehicle of concerned block section, the operating person exchanges private number and press the button in the LVV box.
- iii) On exchanging private number the SS/SM at both ends will insert the reset key for corresponding section and shall press the nominated reset button. By this operation LVV axle counter will reset and associated counter will change to next higher number at both ends.
- iv) SS/SM at both ends shall record the counter number so changed due to reset of axle counter in the reset register and also in the Train signal register mentioning the purpose of reset. After the reset operation is completed preparatory reset indication will appear on reset box at both ends which suggests that the reset operation is successfully completed and the first train has to be piloted out. On arrival of the piloted train the axle counter track cct zone of the section shows clear and normal working shall be resumed. Even after arrival of piloted train, LVV axle counter zone does not show clear indication, S&T staff to be informed for getting rectified the failure of axle counter.
- v) It is mandatory that every reset operation of LVV axle counter first train after reset process shall have to be piloted out.

27. SIGNAL LIGHTS:

The station Master on duty at 00.00 hrs (2nd 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.

28. 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 Hrs every day according to GR and SR 4.01.01 and 4.01.02.

29. TELECOMMUNICATIONS:

- (a) Telephone attached to Token less Block Instruments is connected to adjacent stations on either side.
- (b) Hot line Telephone communication is provided between adjacent stations.

- (C)The station is connected to KRPU-RGDA control Circuit.
- (d)Telephone communication is provided between Station Master on duty to UP CH locations and to DN CH Locations.
- (e) Telephone communication is provided between Station Master on duty and UAIL implant yard.
- (f) 25w VHF set is provided at the station for emergency communication.
- (g)BSNL telephone is provided at this station.

APPENDIX 'C' TO STATION WORKING RULES OF TIKIRI STATION
ANTI COLLISION DEVICE [[RAKSHA KAVACH]:

-NIL-

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APPENDIX 'D'**DUTIES TO BE PERFORMED BY THE STAFF AT TIKIRI STATION:****1. Station Superintendent/Station Master:**

- i) He shall come on duty after taking complete rest and shall not perform his duty under the influence of drugs or intoxicants.
- ii) When on duty or when called upon to do so, in case of emergency, he shall be responsible for obtaining and granting line clear to trains as per SWR & OM Para No. 2.02 (e).
- iii) He shall handle the control panel himself when on duty and shall not permit any unauthorized person to manipulate panel.
- iv) He shall keep the SM's control keys of control panel in his personal custody whenever, he is required to leave his office even for a short duration.
- v) While coming on duty, he shall ensure that all points and signals are in good working order and all the registers, records, pertaining to train passage are completed in all respect before taking over the charge.
- vi) He shall personally ensure that conditions for taking 'off' the reception signals are fulfilled and the clearance of line is verified as per SWR before actually pressing the relevant button for taking off the signals.
- vii) He shall ensure from indications available in the panel that the signals are burning brightly and are giving correct indications.
- viii) He shall ensure that proper indications of points, signals, track circuits, crank handle, level crossing gate etc., are displayed at their proper places.
- ix) He shall ensure that all Shunting operations are carried out as per extant orders and GR 5.19 and SRs thereof.
- x) He shall inform the Technician/JE/SE(sig) in writing or through a written message, any failure of track/signals/points/keys or panels etc. and shall invariably enter these failures in Signals Failure Register.

2. TRAFFIC POINTSMAN/TOKEN PORTERS:

- i) He shall obey all lawful orders of the ASM/SM/SS on duty or official in-charge supervising the shunting during the course of shunting operations including coupling or uncoupling of vehicles, wagons, fixing rubber washers, closing wagon doors, displaying hand signals etc.
- ii) He shall exhibit danger signal to the official supervising the shunting if vehicles are fouled during the shunting operation.
- iii) He shall pilot the trains in case of abnormal working and when ordered by the SS 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.

STATION WORKING RULES OF TIKIRI(TKRI)

Page 49

- xi) 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

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APPENDIX 'E' TO STATION WORKING RULES OF TIKIRI STATION:**ESSENTIAL EQUIPMENT:**

A list of essential equipment's is given below which shall be maintained in good Working order as per OM 2015, Para no. 11.15.

Sl. No	Description	Station
1.	Detonators	20
2.	LED based tri color flashing torch.	3(1 Spare)
3.	Hand Signal Flags	3(1 Spare)
4.	Iron Skids	6
5.	Safety chains with Pad locks	6
6.	Fire & Sand buckets	5
7.	Minimax Fire Extinguishers DCPT	2
8.	Reminder collars	8
9.	Motor trolley on line board	2
10.	Block Suspension board	2

APPENDIX 'F' TO STATION WORKING RULES OF TIKIRI STATION:

WORKING OF UAIL INPLANT YARD TRAINS FROM TIKIRI:

- i. UAIL siding is taken off from Line No.1 towards Singaram End is isolated by D/S 30 at CH:379.12M towards siding and is isolated by point no.26 of sand hump towards station.
- ii. For every movement between TIKIRI and UAIL INPLANT YARD for reception/dispatch of trains from/to, it should be supported with private number exchange between the concerned SM's i.e SM-Tikiri and UAIL INPLANT YARD.
- iii. Point to point communication facility is provided between Tikiri station and UAIL INPLANT YARD.

PROCEDURE FOR ENTRY OF TRAIN FROM UAIL INPLANT YARD INTO TKRI YARD:

- i. When a train is ready in all respect at UAIL INPLANT YARD the UAIL YARD representative shall intimate the description of the train viz. Train no. load/empty, destination, commodity, departure time and last vehicle number to the SM on duty at Tikiri station.
- ii. The SM/TKRI shall not grant Line clear through telephone to SM of UAIL siding without ensuring that the section between TKRI-RUL is not blocked with UAIL bound trains.
- iii. SM/TKRI shall grant Line clear to SM/UAIL siding through telephone under exchange of private number after ensuring that there is no train on Line clear from RUL towards UAIL siding. The UAIL INPLANT YARD officials shall intimate about the departure of the train to SS/TKRI on duty over telephone.
- iv. After ensuring that the trains from UAIL siding have come to a stop at SH-14, the SM/TKRI shall set the nominated route and will take off the shunt signal.
- v. After the complete arrival of the train in to the Tikiri station the loco pilot of the train shall satisfy himself that the train has arrived complete and confirm the same duly signing in the complete arrival register.
- vi. The SM/TKRI after the complete arrival of the train shall normalize the route under exchange of private number.

PROCEDURE FOR SENDING OF TRAIN FROM TIKIRI TO UAIL INPLANT YARD:

- i. To send a train towards UAIL siding, the SM on duty shall ensure that the line between TIKIRI to UAIL INPLANT YARD is clear of all obstructions duly exchanging PN.

EAST COAST RAILWAY

No.WTF/5/TKRI

Office of the DRM(Optns.),
Waltair, Date: 27-03-2014

CORRECTION SLIP No.1 TO SWR OF TIKRI(TKRI)

1. Page no. 1 and 2 of Appendix 'H' to be read as 'Appendix H' attached.

DSTE/(P)

DOM(G)/WAT

CORRECTION SLIP No.1 TO SWR OF TIKRI(TKRI)

1. Page no. 1 and 2 of Appendix 'H' to be read as instructions given in 'Appendix H' attached.

DSTE/(P)

DOM(G)/WAT

CORRECTION SLIP No.1 TO SWR OF TIKRI(TKRI)

1. Page no. 1 and 2 of Appendix 'H' to be read as the instructions given in 'Appendix H' attached.

DSTE/(P)

DOM(G)/WAT

APPENDIX- 'H'

TIKIRI STATION

WORKING OF UAIL INPLANT YARD TRAINS FROM TIKIRI:

- UAIL siding is taken off from Line No.1 towards Singaram End is isolated by D/S 30 at CH:379.12M towards siding and is isolated by point no.26 of sand hump towards station. A cross over point no. 28 at 600.42M is provided to facilitate movement of trains between UAIL plant and TIKRI from L/2 and L/3.
- For every movement between TIKIRI and UAIL INPLANT YARD for reception/ dispatch of trains from/to, it should be supported with private number exchange between the concerned SM's i.e SM-Tikiri and UAIL INPLANT YARD.
- Point to point communication facility is provided between Tikiri station and UAIL INPLANT YARD.

PROCEDURE FOR ENTRY OF TRAIN FROM UAIL INPLANT YARD INTO TKRI YARD:

- When a train is ready in all respect at UAIL INPLANT YARD the UAIL YARD representative shall intimate the description of the train viz. Train no. load/empty, destination, commodity, departure time and last vehicle number to the SM on duty at Tikiri station.
- SM/TKRI shall grant Line clear to SM/UAIL siding through telephone under exchange of private number after ensuring that the conditions for granting line clear is fulfilled. The UAIL INPLANT YARD officials shall intimate about the departure of the train to SS/TKRI on duty over telephone.
- After ensuring that the trains from UAIL siding have come to a stop at SH-14, the SM/TKRI shall set the nominated route and will take off the shunt signal.
- After the complete arrival of the train in to the Tikiri station the loco pilot/guard of the train shall satisfy himself that the train has arrived complete and confirm the same duly signing in the complete arrival register.
- The SM/TKRI after the complete arrival of the train shall normalize the route under exchange of private number with SM/Incharge/UAIL.

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DSTE/Proj/WAT

(F.MINZ)
DOM/G/WAT

APPENDIX- 'H'

PROCEDURE FOR SENDING OF TRAIN FROM TIKIRI TO UAIL

INPLANT YARD:

- To send a train towards UAIL siding, the SM on duty shall ensure that the line between TIKIRI to UAIL INPLANT YARD is clear of all obstructions duly obtaining a PN from SM/Incharge/UAIL.
- SM/TKRI after ensuring that the train for UAIL siding has arrived completely on to concerned line of TKRI yard from RUL, shall then set the route to UAIL siding and shall take off concerned shunt signal.
- SM/TKRI then shall inform the SM in-charge of UAIL siding about the departure and the last vehicle number, if the train is proceeding without guard over the telephone.
- After the train has arrived complete at the UAIL INPLANT yard with its last vehicle, it is the responsibility of SM/TKRI to confirm from the the UAIL INPLANT in-charge that the train has arrived complete inside the plant and the section between TIKRI and UAIL plant is free of any obstructions duly obtaining private number.
- For this purpose private number books shall be given to siding in-charge (One at a time) and brief them regarding the procedure for using the book and the importance to keep the book under personal custody of the siding in-charge of each time.

SECURING OF VEHICLES IN SIDING, COLLIERY SIDINGS ETC. (OPERATING MANUAL RULE No.7.10)

- Users of assisted and private sidings and outlaying Railway siding are responsible for the safety of the vehicles placed at such siding intended for them (for loading or unloading) and the derailment and damage.
- The responsibility of the user begins from time the Railway locomotive leaves the siding after placing the vehicles. The user's representative will thereafter take necessary precautions as required.

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