EAST COAST RAILWAY
WALTAIR DIVISION

STATION WORKING RULES OF KARAKAVALASA STATION (JGPM)
(BROAD GAUGE)

No.WTP/5/SWR/JGPM Date of Issue: _____
Date brought into force:_____

Ref: Railway Board's Letter No 2000/Safety (A&R) 19/36 Dated:27-10-2005

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

1.0 STATION WORKING RULE DIAGRAM

i) Station working diagram No: SI-10076 Alt 'C'

ii) CSTE/ECo.Rly/ DRG NO SI-10076 Alt 'C'

iii) Date upto which corrected

2. DESCRIPTION OF THE STATION:

2.1 a) GENERAL (LOCATION):

i)	Name of the Station	:	KARAKAVALASA
ii)	Class of Station	:	'B'
iii)	Section	:	Kottavalasa – Kirandul
iv)	Double/Single line	:	Single Line
v)	Electrified/non electrified	:	Electrified
vi)	Guage BG/MG/NG	:	BG
vii)	Railway	:	East Coast Railway
viii)	Situated at KM	:	84.123
ix)	From	:	Kottavalasa
x)	No. of Cabins	:	Nil (Centrally operated panel)

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

	Adjacent Block Station	Distance	Direction
A)	SMLG	9 KM	West Side
	BGHU	11.256 KM	East Side

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B)	Provision of IBS	Nil	
C)	Automatic Signals	Nil	
D)	DK Station & Out Lying Siding	There is a catch siding located at KM 87.125 between KVLS-SMLG. The detailed working procedure depicted in Appendix-B.	

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

Between Stations	The Point from which the "Block Section" Commences	The Point at which "Block Section" Ends
KVLS – BGHU	Down Advanced Starter No. 2 of KVLS	UP Advanced Starter No. 9 of BGHU
KVLS - SMLG	UP Advanced Starter No. 9 of KVLS	Down Advanced Starter No 14 of SMLG

2.4 GRADIENTS :

From Center of the Station building

Section towards	Chainage		Stretch (m)	Gradient on falling or raising.
	From	To		
Towards KTV End	000.000	503.000	503 Mts	1 in 400 F
	503.000	2458.000	1955 Mts	1 in 60 F
	2458.000	2658.000	200 Mts	Level
	2658.000	3225.000	567 Mts	1 in 60 F
	3225.000	Into section	-	1 in 70 F
Towards KRDL End	000.000	475.000	475 Mts	1 in 400 R
	475.000	2397.000	1922 Mts	1 in 60 R
	2397.000	3358.000	961 Mts	1 in 70 R
	3358.000	3480.000	122 Mts	1 in 60 R
	3480.000	3957.000	477 Mts	Level
	3957.000	Into Section	-	1 in 70 R

2.5 LAY OUT:

i) KARAKAVALASA Station is provided with three running lines with a Rail level passenger platform on Line No. 1 measuring 243.84x6.1M and track circuit from home to home including approach tracks on distant signals with standard. III interlocking with isolation at either end.

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

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iii) **SIDING:**

a) HOT AXLE SIDING (KTV) END

One Hot Axle siding takes off from line No. 1 at KTV end and is isolated by derailing switches at both ends. The entrance points and the corresponding derailing switches are coupled and operated by an arc lever provided at site at either end of the siding.

b) SLIP SIDING

A Slip siding is provided at KTV end of the yard (36.58 M) beyond the down advanced starter. This slip siding point is normally set to the slip and is interlocked with the block instrument of section KVLS-BGHU.

2.5.1 RUNNING LINES / DIRECTION OF MOVEMENT AND HOLDING CAPACITY.

a) All the three lines are running lines with the holding capacity

Srl	Running Lines	CSL	Electrified/Non Electrified
1	Main Line	685 M	Electrified
2	1st Loop line	719 M	Electrified
3	2nd loop line	710 M	Electrified

b) **Direction of Movements:** Trains arriving at this station from BGHU and proceeding towards SMLG are up trains and trains leaving SMLG end and proceeding towards BGHU are down trains.

2.5.2 NON RUNNING LINES

Name of Non Running Lines	Capacity in CSR
Hot Axle Siding	60.96 M
Slip Siding	36.58 M

2.5.3 ANY SPECIAL FEATURES IN THE LAYOUT.

a) **Mid-section Catch Siding:**

There is a mid-section catch siding between KVLS-SMLG at KM 87.125 which is controlled by the single line Tokenless block instrument of section KVLS-SMLG and automatically operated by the passage of the train at restricted speed in down direction.

At this catch siding the speed of the train in the down direction is monitored to ensure that the signals governing the movement over the catch siding show off after the SPEED SENSING DEVICE (provided for this purpose) counts down the running time of train within two pre-determined location sets and locks the points.

Mid-Section catch siding point is normally set to catch siding and interlocked with block instrument of section KVLS-SMLG so that it will not be possible to set the

catch siding point to running line, unless the handle of the block instrument is either in 'sending' (Train going to) or 'receiving' (Train coming from) positions. Similarly the handle of the block instrument cannot be made normal unless the catch siding point is set to its normal position.

b) **Slip Siding:**
A slip siding is provided at KTV end of the yard beyond down advanced starter signal. The slip siding point is normally set to slip siding and interlocked with block instrument of section KVLS-BGHU so that it will not be possible to set the slip siding point to running line, unless the handle of the block instrument is either in 'sending' (Train going to) or 'receiving' (Train coming from) positions. Similarly the handle of the block instrument cannot be made normal unless the slip siding point is set to its normal position i.e. to slip siding.

2.6 LEVEL CROSSINGS:

Nil

3.0 SYSTEM & MEANS OF WORKING

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), 14.09 to 14.11, 14.12, 14.13 and BWM Chapter-IV part I either direction.

BLOCK INSTRUMENTS:

Single line Daido type Tokenless block instruments with block telephones are provided for block Section KVLS-BGHU and KVLS-SMLG vide GR 14.01(a) and the OFF aspect of the last stop signal is the authority for the locopilot of all UP trains to enter into the block section vide GR 14.08(b)(iv)

The Station Master on duty is responsible for operation of the block instruments and the keys of the instruments must be under personal custody of the SM on duty vide GR 5.01(4), 14.12(1)(a)(1) and GR 5.08.

4.0 SYSTEM OF SIGNALLING AND INTERLOCKING:

4.1 a) Standard of Interlocking: Standard. III

b) Type of Signalling: MACLS.

c) Method of operating the Signals/points from lever frame/control panel/VDU/CTC: Control panel installed in SM's office for operating of points and signals in the yard.

d) Provision of Axle Counter/Track Circuits: 2 rail length DAT and UAT distant signals respectively in additions to 10T, 9T, 16AT, 16BT, 15AT, 15BT, 13AT. 13BT, 14AT, 14BT, 12T, 1T. Berthing track circuits are also provided as L1T, L1T1, L2T, L2T1, L3T, L3T1.on running lines. Digital axle counter is provided for

last vehicle verification on Block section KVLS-BGHU and KVLS-SMLG.

e) Calling on Signals/IBS: NIL.

f) Crank Handle Operation: In the event of failure operation of points though control panel, Its inevitable to resort for operation through crank handle. Whenever the crank handle is used for operation of points, the necessary entries shall be made in the crank handle register, signal failure register and in the SM's diary. Whenever points are set through Crank handle, the relevant point which include in the train movements are required to clamp and padlock both facing and trailing. (Details of operation is described in Appendix 'B').

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

Relay room is provided with two independent locks, key of one lock is under custody of SM on duty and the key of other lock is with the S&T maintainer. Whenever required by the maintainer the key should be handed over by the SM for the maintenance or to attend failure. After completion of the work the key shall be returned back to SM on duty after closing and locking the Relay room. The transactions shall be recorded in the relay room key register maintained at the station for this purpose.

4.3 POWER SUPPLY:

Normal power supply is 230v single phase from the auxiliary transformer connected to OHE traction distribution.

Standby power supply is from local power supply source (230 V – 50 Hz).

5.0 TELECOMMUNICATIONS:

i) Telephone attached to Tokenless block instruments is connected to adjacent block stations on either side.

ii) Tele communication equipment (Magneto phone) is provided for block stations on either side.

iii) The station is connected to OEC-KRPU control circuit.

iv) The station is connected to OEC-KRPU traction power control circuit.

v) The station is connected to Goomties at either end of the yard.

vi) Telephone communication is provided between the station and catch siding goomty.

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vii) The station is provided with TLC Telephone.

viii) The station is provided with BSNL Telephone.

ix) VHF set is provided at the station.

5.1 FAILURE OF COMMUNICATIONS:

i) In the event of partial failure of communications between the adjacent block stations, SR 6.02.06 shall be observed, for working the train.
ii) In the event of total failure of communications between the adjacent stations SR 6.02.04 shall be observed.

6.0 SYSTEM OF TRAIN WORKING:

DUTIES OF TRAIN WORKING STAFF:

Movement of trains is regulated by the Section Controller on duty whose orders must be carried out provided they do not in any way contravene any G&SR, BWM, OM and SWR and any other safe working principles vide OM 214. Where there is no control the station Master on duty shall work independently in conjunction with the Station Master of the adjacent block stations and shall be responsible for safe reception/dispatch of trains. He shall ensure that preference is given to immediate trains without causing undue detention which occurs to other trains.

6.1.1 TRAIN WORKING STAFF IN EACH SHIFT:

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

Compliment of Staff		Staff in Each Shift	
SS/SM	3	SS/SM	1
TPM 'A'/TPM 'B'/ Sr.TP	2	Traffic Points Man	1
SCLM	1	SCLM	1 (General Shift)

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

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

The verification of line clearance by SM on duty for reception of train into station yard: In the station yard a route on the running line comprises of entrance, berthing and despatch portion of the yard and this portion of the yard should be clear of all obstruction for the passage of any train. The clearance of the route including over lap must be ensured by the SM on duty personally on the panel for all trains before admission.

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When a train is to be despatched from the station yard on signals the SM on duty must ensure that the route between the starter signals and the block section limits demarcated by the advanced starter is clear of any obstruction on the route before the SM on duty takes OFF departure signals.

6.1.3 ASSURANCE OF STAFF IN ASSURANCE REGISTER:

Every train passing staff including newly posted staff at the Station or leave reserve staff or regular staff who has resumed duties after more than 15 days absence and if there be any change is made in Station Working Rules shall sign in the Assurance Register as a token of their having gone through and understood clearly the rules in connection with their duties vide SR 5.01.02.

The SS/SM in charge of the Station shall be personally responsible for maintenance of Assurance Register and must not allow any person connected with train passing duties to work independently unless he has given assurance as per 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 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 complete.
   ii) Up home signal No. 1A/B/C is put back to ON and,
   iii) Line is clear upto down advanced starter No. 2.

d) Line shall not be considered clear and line clear shall not be granted to a down train unless.
   i) Whole of the last preceding down train has arrived complete.
   ii) Down home signal No. 10A/B/C is put back to ON and,
   iii) Line is clear upto up advanced starter No. 9.

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

a) For admission of train on a line from which a over-run line/sand hump is taken off, the SM on duty shall ensure that the over-run line/sand hump is clear of all obstructions even when the over-run line/sand hump is in trailing direction.

b) The clearance of slip siding is also to be ensured, either for reception or despatch of a train over the slip siding points.

6.2.1.1 SETTING OF POINTS AGAINST BLOCK LINE:

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

6.2.1.2 RECEPTION OF TRAIN ON BLOCKED LINE:

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

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:

Not Applicable

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

SPECIAL RESTRICTIONS:

a) Shunting in the face of an approaching train is prohibited.

b) Hand shunting is prohibited at both ends of the yard.

c) Fly shunting is prohibited at both ends of the yard.

d) The slip siding must not be used as shunting neck or for stabling of vehicles or harbouring an engine with or without vehicles.

e) Shunting shall not be permitted at KTV end of the yard unless the engine in leading towards the falling gradient (KTV end).

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f) SR 5.1402, 5.20.01(b), 5.23.01(c) shall be followed before detaching the engine from the rake.

g) Motor trollies are not permitted on following line clear between KVLS-SMLG, KVLS-BGHU block section vide SR 15.25.03(b)(iii) due to sharp curves and steep gradients.

h) Ballast/Material train shall not be allowed to be pushed into block section KVLS-BGHU.

i) In view of yard gradient in steeper then 1 in 400 no stabling see through line engine is permitted on main line.

j) During piloting 'IN' of a down train into yard, keeping up train at outside signals, the nominated route shall be set to slip siding/derailing switch only.

k) The over run line/sand hump/slip siding must not be used for stabling of vehicles or harbouring an engine with or without vehicles. Slip siding shall not be used as shunting neck.

SPECIAL INSTRUCTIONS:

The instructions laid in para 8.1.5 of Appendix 'B' of this SWR shall be followed in case of block instrument failure.

i) For any shunting towards KTV end yard, line clear must be obtained from BGHU on block instrument and slip siding set to running line with the rotary switch No. 12 and the same to be kept turned to 'R' position till such time the shunting is completed. In case of the block instrument for the section KVLS-BGHU is suspended in line closed position, the section KVLS-BGHU must be blocked back and the slip siding set to running line with the crank handle.

ii) Whenever crank handle is used to set points for reception or despatch of trains or for any shunting, the points so set must be clamped and padlocked both in facing as well as trailing ends.

iii) In every case of shunting of points with crank handle either for reception, or despatch the correct setting, clamping and locking of points both in facing as well as trailing directions must be certified by the TPM/SM on duty in the crank handle register maintained as per proforma vide OM 20.06.

iv) When the points are set with rotary switches for shunting operations, the rotary switches should be kept turning to 'R' or 'N' position as the case may be, but under no circumstances switches should be brought on to 'C' position. AS a further precaution the panel board should be locked by removing the SM's control key.

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v) When the points are set with rotary switches for piloting IN or OUT a train, the points so set should be clamped in both facing as well as trailing directions and the correct clamping and locking of points should be certified by the TPM/SM in a separate register maintained for this purpose.

vi) When piloting IN a up train or piloting OUT a down train and when the slip siding point is clamped and padlocked the slip siding rotary switch should be kept turned to 'R' position till such time the train has arrived complete and the clamp is removed.

vii) The instructions laid down in Appendix 'B' para 8.1.2 to 8.1.5 of this station working rule shall be followed in case of block instrument failure.

viii) When the panel interlocking fails the trains are required to be piloted IN and OUT, the SM on duty shall ensure the correct setting and clamping of points in both facing and trailing ends as also the clearance of the route required vide G&SR 3.69.03©. The SM on duty shall ensure clearance of the route by physical check.

ix) The station is connected to the OHE step down power supply. In case of failure of OHE supply the SM on duty to switch over to healthy source of local power supply.

x) After any non-signalled move has taken place over a point/points operated by an electric machine, whether in the facing or trailing direction the SM on duty shall operate the points to normal and reverse setting for the purpose of testing the points. After the SM has ensured that indications regarding the normal and reverse setting are correctly available, further movements may be permitted over the point.

6.3 CONDITIONS FOR TAKING 'OFF' APPROACH SIGNALS:

a) **Conditions**: Conditions for taking 'OFF' approach signals are governed by GR.3.40(1)(b), 3.40(2)(b), 3.40(3)(b) and relevant SR's there to.

b) **Reception of trains:** Reception of trains is governed by the relevant rules laid down in GR.3.36, 3.38, 3.40, 3.49, 3.43, & 4.17 and SR thereto and other relevant provisions of G&SR, BWM, OM and SWR shall be followed.

c) **Line Nomination:**
The SM on duty shall nominate a line for reception of a train either Up or Down which is clear of any obstruction form the home signal to the starter signal as also an adequate distance beyond it.

d) **Adequate Distance:** To take off the home signal for admission of a train the adequate distance as mentioned below shall be kept clear in terms of GR 3.40.(3)(b) and SR thereto.

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CLEARING OF ADEQUATE DISTANCE

LINE NO.	UP TRANS		DOWN TRAINS	
	FROM	TO		FROM
LINE NO. 1	UP Starter No. 6	UP advanced starter No.9 or Dead end of sand hump.	DN Starter No. 5.	The dead end of the overrun line or Down advanced starter No. 2.
LINE NO. 2	UP Starter No. 8.	UP advanced starter No.9.	DN Starter No. 3.	DN advanced Starter No. 2.
LINE NO. 3	UP Starter No. 7.	The end of sand hump or UP advanced starter No. 9.	DN Starter No. 4.	DN advanced Starter No. 2 or Dead end of sand hump.

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

e) **Stopping of Shunting Operations:** The Station Master on duty shall ensure that all shunting on non isolated line is suspended and shunting authority issued to such operation is withdrawn and kept in his possession vide GR 5.13 and SR 5.13.02 before receiving a train on non-isolated line.

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

Station Master should ensure that the signal is put back to 'ON' after passage of train as per GR 3.36(2)(b)

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

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

A	Reception of an UP train on line No 1.	AND	(a) Reception of a down train on line No. 3. Or (b) Despatch of another UP train from line No. 2 or 3.
b	Reception of an UP train on line No. 3	AND	(a) Reception of a down train on line No. 1. Or (b) Despatch of another UP train from line No. 1 or 2.

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c	Reception of a Down train on line No 1.	AND	(a) Reception of an up train on line No. 3. Or (b) Despatch of another down train from line No. 2 or 3.
d	Reception of a Down train on line No. 3	AND	(a) Reception of an up train on line No. 1. Or (b) Despatch of another down train from line No. 1 or 2.

B. CROSSING OF TRAINS:

In addition to the normal provision of reception and dispatch of trains, rules laid down in SR 3.47.01 and SR 3.51.06 shall be followed.

At this station, the interlocking does not permit setting of Outer most trailing points against the incoming stopping train during crossing of trains.

Note: The SM on duty should be very careful to see that the signals on the route on which the first train is admitted are not interfered with unless the first incoming train has come to a stop either at the STOP SIGNAL or at THE USUAL PLACE OF HALT and is clear of the fouling marks and it is only when the route for the second train in the opposite direction shall be initiated.

6.5 COMPLETE ARRIVAL OF TRAINS:
FOR STOPPING TRAINS:

For Section KVLS-BGHU:

Entire Block section between KVLS-BGHU and KVLS-SMLG is provided with Digital axle counter.

For section KVLS-BGHU:

A pair of Digital axle counter is provided between KVLS-BGHU one at just beyond DN advanced starter signal no.2 of KVLS and another on 10T track circuit of BGHU for last vehicle verification.

For section KVLS-SMLG

A pair of Digital axle counter is provided between KVLS-SMLG one at just beyond UP Advanced starter signal no.9 of KVLS and another on IT track circuit of SMLG for last vehicle verification.
The position of the Block section whether clear or occupied is reflected in the axle counter reset box provided in the Station Master's office which shows 'GREEN' when the Block Section is clear and 'RED' when occupied. Whenever a train enters in to the Block Section, "Block Section Clear" indication 'GREEN' for the particular block section disappears and 'RED' indication appears.

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After complete arrival of the train the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of the train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR.14.13 is to be followed. The axle counters are interlocked with the respective block instruments for that section. If axle counter fails, Advanced Starter signal 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 to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at either end of the block section. Details of resetting procedure are given in Appendix-'B'.

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

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

6.6 DISPATCH OF TRAINS:

a) Dispatch of trains is governed by the provisions of GR. 3.42 and SRs 3.36 .04(b), 3.42.04; 3.42.01(a) and BWM 2.07(5)(a)(e)(f) & (g) and other relevant provisions of G & SR, BWM and SWR.

b) **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 Locopilot in terms of GR 4.09 and SR thereto.

6.7 TRAINS RUNNING THROUGH:

a) In addition to procedure detailed in paras ‘Reception and Dispatch’ of trains, Rules laid down in GR 4.17, 4.42, 3.36, 3.42 with relevant SRs shall be followed.

b) Reception and Dispatch signals shall be taken “OFF” as per the sequence given vide SR 3.42.02(a)(iv), SR 3.42.03 and SR 3.42.04.

c) In every case in which trains are permitted to run through on a non-isolated line all shunting shall be stopped and no vehicle-unattached to an engine or not

properly secured in accordance with GR5.83 may be kept standing on a connected line witch is not isolated from the through line vide GR 4.11(2).

d) SS/SM on duty shall see the last vehicle of every train passing through at Station with a board or lamp or such other device vide GR 4.16 SR 4.17.01(a).

6.8 WORKING IN CASE OF FAILURE:

DEFECTIVE TRACK CIRCUITS

SS/SM shall follow procedure laid down in SR 3.68.01(e).

DEFECTIVE POINTS

Procedure prescribed in SR 3.68.01(e) and relevant SRs shall be followed. Whenever points become failed the sequence shall be set through crank handle including mid section catch siding point.

DEFECTIVE AXLE COUNTERS

Not Applicable

FAILURE OF SIGNALS AND INTERLOCKING

SS/SM on duty shall be responsible and personally supervise the setting, clamping and pad locking of all required facing and trailing points for admission or dispatch of trains and procedure laid in GR 3.68 to 3.71 and SRs there to shall be followed

6.9 PROVISIONS FOR WORKING OF MOTOR TROLLIES / MATERIAL TROLLIES:

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

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

c. Motor Trollies are not permitted on following line clear between section BGHU-KVLS and KVLS-SMLG.

d. Push Trollies shall run under block protection only vide SR 15.25.09(e).

e. OCC keys of Tokenless 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.

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7.0 BLOCKING OF LINE:

a) A clear remark in RED ink shall be made immediately in the train signal register indicating time and number of running line on which vehicles are stabled. A record thereof shall be made in the station diary also vide SR 5.23.01(a). The same shall be acknowledged by the reliever.

Note: Special care should be taken to secure special type of vehicles fitted with roller bearing when detached on running line or siding.

b) **USE OF REMINDER COLLARS:**

SM on duty whenever a running line is blocked for any reason, shall place REMINDER COLLARS on the concerned Home signal and point button.

c) **LOADING AND UNLOADING OF VEHICLE ON RUNNING LINES:**

The rules laid down in SR 5.19.01 shall be followed.

d) **SECURING OF VEHICLES:**

The rules laid down in GR 5.23, SRs 5.23.01,3.01.06 and OM 7.08 shall be followed.

NOTE: Special care must be taken to secure special type wagons provided with roller bearing as they are liable to roll down easily vide OM 7.03.

e) **DETACHING OF VEHICLES ON RUNNING LINE:**

Detaching of vehicles on running lines is normally prohibited. "However any vehicle is detached on running lines under unavoidable circumstances such rolling stock shall be placed opposite to the Station Master's Office as far as possible and shall be properly secured vide GR 5.23 and SR 5.23.01(d).

8.0 SHUNTING:

8.1 GENERAL PRECAUTIONS :

The rules laid down in 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, 5.15(1)(B) and 5.1(2)(B) shall be followed.

For any non-signalled movement, the Dy S.S/S.M. on duty shall ensure clearance of crossover through the indication on the panel and the person who supervises such shunting shall also confirm it to SM on duty over goomty phone supported by private number.

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8.2 SHUNTING IN THE FACE OF AN APPROACHING TRAIN:

Shunting in the face of an approaching train is strictly prohibited. Vide GR 8.09 & SR thereto.

8.3 PROHIBITION OF SHUNTING - SPECIAL FEATURES:

a) Hand shunting is prohibited at both ends of the yard.

b) Fly shunting is prohibited at both ends of the yard.

c) Shunting shall not be permitted at KTV end of the yard unless the engine is leading towards falling gradient.

d) SR 5.14.02, 5.23.1(b), 5.23.01(c) shall be followed before detaching the engine from the rack.

8.4 SHUNTING ON SINGLE LINE:

i) Within Station section: Governed by GR 8.10.

ii) Within 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 such section which is intended to be obstructed supported by private number. Both the station masters shall fix line block labels on respective block instruments and shall continue shunting provided by the block section is clear.

8.5 SHUNTING ON DOUBLE LINE:

Not Applicable

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

a) **NON-SIGNALLED MOVEMENTS:**

All signalled movements in the yard either of train or an engine with or without vehicles shall be from one stop signal to the next stop signal and no half way movement are permitted and if such movements are unavoidable it should be considered as non-signalled move and precautionary measures should be taken, such as clamping and pad locking of points on the route both interlocked and non-interlocked points including derailing switches whether directly or locally operated with or without locks according to SR 5.13.05., 5.14.03. It must be

ensured that point controlling switches are in appropriate position and that the SM's panel lockup key is removed and kept in the personal custody of the SM on duty.

b) **CUSTODY OF KEYS PADLOCKS DURING SUCH MOVEMENTS:**

The keys of the padlocks of such points shall be in the personal custody of the operating official vested with this responsibility of supervision till such time movements are completed. The operating official vested with the responsibility of supervising the non-signalled movement of the engine /train/vehicle must return the key along with pad locks to the SS/SM on duty, after completion of the said movement or alternatively when such a move is cancelled.

Note: Points both facing and trailing are to be clamped and padlocked for all yard shunting operations over them. Further it should be ensured that the track circuits including that of point zones are clear of any obstruction and certified so by the operating official (who is responsible for shunting operation) before the SM on duty resumes normal working of trains such as reception or despatch.

c) **AUTHORITY FOR SHUNTING OPERATIONS:**

The SS/SM on duty shall issue written shunting authority on form T/806 to the Loco Pilot through guard of the train.
This memo shall be withdrawn whenever shunting is to be suspended for reception and dispatch of train if the line on which shunting is performed is not isolated. After shunting is completed, the order shall be collected from the Loco Pilot cancelled and pasted with the record foil as per SR 5.13.02

9.0 ABNORMAL CONDITIONS:

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

i) During partial interruption/failure of electrical communication instruments SR 6.02.06 shall be followed.

ii) The authority to proceed in the occupied block section in case of obstruction of line or accident etc is T/A-602 and SR 6.02.05 shall be followed.

iii) Trains delayed in the block section: GR 6.04 and relevant SRs shall be followed.

iv) Failure/ passing of IBS signed in ON position: Not applicable.

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

vi) Failure of MTRC: Not applicable.

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

i) Procedure for operation of points by means of crank handle: In the event of failure of operation of points through panel, it is inevitable to operate manually by means of crank handle as per the procedure mentioned in Appendix – B.

ii) Procedure for operation of point in the event of failure of point zone track circuit: The procedure of operation as mentioned in Appendix – B is to be followed.

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

Not Applicable

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

i) Whenever a failure of track circuits/Axle counter is occurred, SM on duty is to advise the signal maintainer immediately through a memo under clear acknowledgment and after rectification, the memo to this effect to be obtained from signal maintainer..

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

9.1 TOTAL FAILURE OF COMMUNICATIONS:

In the event of total failure of communications trains shall work as per SR 6.02.04.

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 UNDER BLOCK TICKET TO ASSIST THE CRIPPLED TRAINS:

During total interruption of communications when a light engine/train engine/motor trolley/tower wagon/trolley/cycle trolley/mopped trolley/diesel car/rail motor car/EMU rake is sent to open communications under authority to proceed without line clear, the relevant provisions of SR 6.02.05 shall be followed.

For trains proceeding on the authority to proceed without line clear the last stop signal shall not be taken off but the authority to pass the last stop signal at ON position in the

prescribed form T/B602 shall be issued.

In the event of necessary of sending a train into occupied block section or allowing an engine to assist the crippled train the written authority on the prescribed form No. T/A 6.2 shall be issued. In such condition SR 6.02.05 shall be followed.

10.0 VISIBILITY TEST OBJECT:

An unserviceable wooden sleeper painted alternatively Black and White (illuminated during night) fixed at a distance of 180 meters away from the centre of SM's office at either end of the station vide GR 3.61(2)(b)(i) are visibility test objects.

11.0 ESSENTIAL EQUIPMENT AT THE STATION

The detailed list of essential equipment to be maintained at the station in good working order vide O.M.20.01(11) is given in Appendix-E of the SWR.

12.0 FOG SIGNAL MEN TO BE CALLED IN CASE OF FOG:

In Foggy or tempestuous weather train shall be worked as per the rules laid down in GR 3.61 and 3.64 with relevant SRs.

13.0 APPENDICES:

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

CERTIFICATE

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

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EAST COAST RAILWAY
WALTAIR DIVISION

APPENDIX 'A'
WORKING OF LEVEL CROSSING GATES
KARAKAVALASA STATION

Nil

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EAST COAST RAILWAY
WALTAIR DIVISION

SYSTEM OF SIGNALLING AND INTERLOCKING AND TELECOMMUNICATIONS
KARAKAVALASA STATION

Details of Signalling and Interlocking installations, Telecommunication instructions for working them normally and in emergencies etc., including the power supply arrangements.

1.1 BRIEF DESCRIPTION OF THE SIGNALLING AND INTERLOCKING INSTALATION:

1.1.1 This is a 'B' Class Station with Standard-III interlocking (with isolation) with full-fledged track circuiting between home signals. The points and signals are power operated from a domino type panel installed in the SM's office. The Station is equipped with manually operated Multi Aspect Colour Light Signalling.

1.1.2 There is a mid-section catch siding at this station at KM 87.125 between KVLS-SMLG remotely controlled by Tokenless block instrument of section KVLS-SMLG.

1.2 DISCRIIPTION OF PANEL:

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

1.3 SIGNAL SWITCHES, POINT SWITCHES WITH THEIR INDICATIONS:

1.3.1 Point rotary switches are fitted on this panel in one row at the bottom of the panel opposite to the points. Signal push buttons are provided in the panel (independently for each route) in a vertical row for Home signals against the signal location on the operating panel. Starters and Advanced starters signal push buttons are provided at the foot of the signals on the operating panel.

1.3.2 1For operating of the signals, the concerned 2-pos rotary switches are fitted on the panel at the bottom of the panel board. The concerned signals may be controlled by operating the related switches and concerned route buttons.

1.3.3 A power failure buzzer muting button is provided when the power fails. The buzzer will be appear with buzzer & red indication, when it will be pressed. The buzzer is white.

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1.3.5 STATION MASTER'S LOCK UP KEY ARRANGEMENT:

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

2.1 RUNNING LINES POINTS SWITCHES AND SIDING POINTS

2.1.1 All running line points are operated by Electric Point machine which have got inbuilt locking arrangements and detection.

2.1.2 Siding points are operated by Arc levers at site and interlocked with the system through HKT instruments.

2.1.3 For emergency operation of the electric point machines crank handles are provided with interlocking arrangements.

2.2 ELECTRIC POINT MACHINES AND OPERATING SWITCHES:

2.2.1 The operation of the point machines is controlled by 'Rotary' type thumb switches for each point/cross-over. These switches can be operated to three positions. It can be moved to the left which is the 'Normal' 'N' position, to the right which is the 'Reverse' 'R' position and 'Center' 'C' position, that the switch in 'C' position that point machine responds to route setting with signal on the operation.

2.2.2 INDICATIONS OF MOVEMENT OF POINTS AND SETTING:

There are three small circular illuminated indications are provided above the point rotary switch, viz. Normal 'N' on the left, Reverse 'R' on the right and in the Center Red flashing indication. Normally either the 'Normal 'N' or 'Reverse indication glows depending on the point with 'NO' light on the center indication, when the point switch is operated from normal to reverse or reverse to normal the illuminated normal or reverse indication, disappear and 'Red Flashing' indication glows on the "Center" indication showing transition of the point movement from one position to the other position and this "Red Flashing" eases when the point is correctly housed either in 'normal' or 'Reverse' position. The normal time taken for the point operation is about ten seconds it indicated the point is not set in the desired position. Facilities, however exists to bring back the points in their original position, thus stopping the "Red Flashing" indication.

When the signals are taken "OFF" or when the point zone track circuit is occupied a constant RED light indication appears over the centre position of the concerned route switch and remains till the movements completed or otherwise cancelled by emergency operation.

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2.2.3 OPERATION OF POINTS BY ROUTE INITIATION:

Whenever an individual point or a cross over has to be operated, it is necessary to operate the concerned point switches, provided, it is not locked by any signal. The Operation of the point switch will change the position of the point from 'Normal' to 'Reverse' or 'Reverse' to 'Normal' provided the point zone track circuits are unoccupied and not locked by any route. The setting of the points is either "Normal' or 'Reverse' position and getting point indication on the panel does not amount to locking of these points.

Therefore, the points have to be clamped and padlocked (both facing and trailing) in the desired position for any non-signalled move over them.

2.2.4 FAILURE OF TRACK CIRCUITS ON POINT ZONES:

The failure of track circuits over the point zone shall make the power operation of the points from the panel inoperative. In such cases the SM on duty has to report to emergency operation of these points after making necessary transaction for taking out the Crank handles etc, (as detailed in Appendix-B) by means of emergency. Crank handle and while doing this operation, it is necessary that the SM on duty or an authorized operating official shall check the point zone track circuits to ensure that it is clear of any obstruction and then only resort to cranking the points, cranking should be done till lit is ensured that the point is fully housed in the desired position. At this station the points are automatically operated by route indications explained, provided the point switches are in the 'Center' position.

2.2.5 The cause for non-setting of the point in the desired position has to be checked up by the SM on duty personally according to GR & SR 3.68.01(c) and if there is defect other than an obstruction this point has to be considered as defective and action taken for clamping and padlocking the points in the desired position by a competent Railway servant under the personal supervision of SM on duty for all trains according to SR 3.69.03(c).

2.2.6 When the point is correctly set "Red Flashing" ceases and the 'Normal' (N) or 'Reverse' 'R' indications appear as already explained. But when signal is taken 'OFF' for a movement over the said points the appearance of a 'White strip of light' over the point zone on the route indicates the locking of the route including the point and under these circumstances, the point cannot be altered unless the route originally set is cancelled normally or with an emergency operation which is explained in subsequent paras.

3.0 SIDING POINTS:

The siding points are operated locally by Arc levers at site and these points are assured with the panel interlocking system. The siding points thumb switch has to be in the 'Key IN' position normally and whenever it is necessary to operate siding, this point thumb switch has to be turned to 'Key Out' and when condition are

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satisfying for such a shunting movement, the siding control 'RKT can be extracted from the corresponding RKT instrument fitted in the SM'S office and when once this key is taken out form the RKT, the siding can be operated by releasing the key locked points on the siding and till such time the key is not restored to the RKT and turned in, and the corresponding siding point thumb switch on the panel resorted to 'Key In', no signal movement on any direction on the corresponding line is possible.

3.1 SIDING AT THE STATION:

HOT AXLE SIDING:

One Hot Axle siding takes off from line No. 1 (at KTV end of the yard) and is isolated by derailing switches at both ends. The entrance point and the corresponding derailing switches are coupled and operated by arc levers provided at site. Hand plunger locks fitted at the entrance points are unlocked by a key released from RKT provided at station when the switch No. 11 is in its 'Key Out' position in the panel board, When this key is extracted the UP and DOWN reception and dispatch signals for line No. 1 cannot be taken 'OFF'

3.2 WORKING OF SLIP SIDING:

The Slip siding is provided at KTV end of the yard beyond the down advanced starter. This slip siding point is normally set to the slip, and is interlocked with block instrument for section KVLS-BGHU so that it shall not be possible to set the slip siding point to 'running line' unless the handle of the block instrument is either in 'Receiving (trains coming form)' or 'Sending (trains going to) position'. Similarly the handle of Block Instrument cannot be made normal until and unless the slip siding point is set to its 'Normal' position.

3.2.1 The Slip siding is provided at KTV end of the yard beyond the down advanced starter signal. The slip siding point is controlled by rotary type thumb switch no. 12 from the panel situated in SM's office. The slip siding gets set for "Running line" keeping the slip siding point switch in centre position and by the operation of DN advanced starter switch and DN advanced starter route button simultaneously when the Block instrument for the section KVLS-BGHU is in Train Going To position or by the operation of any one of the UP route buttons and UP Home signal switch simultaneously. When the block instrument for the above section is in receiving position. The slip siding point sets to its "Normal" position automatically after the complete passage of train past the slip siding track either direction.

The slip siding point can also be set to the running line by the operation of rotary switch No. 12 to perform shunting towards KTV end of the yard when the section BHJR-BGHU is blocked back by obtaining line clear the slip siding point can also be set by utilising crank handle for shunting purpose when the block instrument is in "line closed" position.

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3.2.2 In case the slip siding point does not automatically go back to its 'Normal' position, after the complete passage of the train past the slip siding track, the SM on duty shall put back the same to normal by operation of rotary switch No. 12 to 'N' position.

3.2.3 The slip siding point can also be set to 'Running line' by the operation of the rotary switch No. 12 to perform shunting towards KTV end of the yard when the section KVLS-BGHU is blocked back.

4.1 SIGNAL SWITCHES:

The reception and despatch signals have individual push buttons for each route which have to be pressed concurrently with the concerned signal switch, when such an operation is restored to the route setting is initiated and the route automatically gets set, provided the permissibility of such an action is accepted by the interlocking system.

One important condition for an operation of automatic route initiation and setting and locking is that the rotary switches of the points or the running line must be "centre" position and the siding control point switches in the 'Normal' position and RKT's crank handle and siding control in the 'Key In' position with their respective keys inside and properly turned (IN). Then these signals are operated, a strip of light appears on the route and the concerned signals assume 'OFF' aspect.

4.2 SIGNAL INDICATION:

The aspect of signal obtainable at any time is shown in the signal indicators shown along side the track on the panel.

5.1 POWER FAILURE INDICATION/BUZZER & POWER ACKNOWLEDGEMENT:

A power failure button is on right hand of the panel. When the normal power fails there is an audible and visual 'RED' indication above the power switch. The SM on duty must press this button to 'off' to stop the audible indication and the visual indication is 'RED' continues till the resumption of normal power supply. Now the SM on duty will switch over to the stand-by power operating the change-over switch located in the SM's office.

5.2 When the normal power supply resumes, there shall be an audible indication and the 'Red' indication on the power switch indicator extinguishes. Then the Station Master on duty has to restore the normal power supply by operating the changeover switch and also restore the power acknowledgement switch on the panel to the 'ON' position to stop the audible indication.

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6.1 TRACK CIRCUITS:

The station is equipped with full-length track circuits on the entrance berthing and point zones as also the First Vehicle Track (FVT) and last vehicle track (LVT) in either direction. These track circuits are there to effect the approach indications including audible warning, track indications and track locking and also to prove presence or otherwise of vehicle on any of the track circuits except the portion of track between UP distant signal and UP Home signal where only two rail length approach track circuit is provided in rear of UP distance signal. The operation of these track circuits in accordance with the direction of movement of the train shall effect locking or release of the locking as necessary, consistent with the general principles of route initiation/operation and route release in a proper signalling installation. Whenever there is a failure of point zone track circuits at either end of the crossover, the said points cannot be operated.

The track circuit indication are there on the panel on the approach, entrance, point zones and berthing as also FVT and LVT on either direction. Normally no indication is shown on the panel. Whenever a route is initiated, set and locked a 'white strip of light' appear on the indicating panel on the entire route from stop signal to stop signal (without the overlap indication which is normal). When the train passes over these track circuits including approach track, every track circuit shown occupation by a 'RED' light and these indications extinguish as follows:

6.1.1 In case of reception of trains into the Station yard-

a) After granting line clear in Tokenless Block Instrument, when the approaching train occupies the concerned UP and Down short length approach track in rear of the concerned distant signal, an audible indication (buzzer) and a visual indicator (red light) will appear on the panel board to stop these indications

b) Track circuits in point zone extinguishes when the train clears the point zone.

c) Berthing track indication extinguishes when the berthing track is cleared.

6.1.2 In case of despatch of train out of Station yard-

a) The trailing/facing point zone indications extinguishes when the train clears the point zones.

b) The indication of track circuit between trailing point and advanced starter extinguishes when the train clears the section between trailing point and the Advanced starter.

c) The indication of track circuit between advanced starter and the opposite Home signal extinguishes when train clears this track section.

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d) The identification of track circuits of opposing approaching track extinguishes when the train clear this track section.

6.1.3 Entire Block section between KVLS-BGHU and KVLS-SMLG is provided with Digital axle counter.

For section KVLS-BGHU:

A pair of Digital axle counter is provided between KVLS-BGHU one at just beyond DN advanced starter signal no.2 of KVLS and another on 10T track circuit of BGHU for last vehicle verification.

For section KVLS-SMLG

A pair of Digital axle counter is provided between KVLS-SMLG one at just beyond UP Advanced starter signal no.9 of KVLS and another on IT track circuit of SMLG for last vehicle verification.

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

After complete arrival of the train the 'RED' indication will disappear and 'GREEN' indication will appear. If after the complete arrival of the train the 'RED' indication does not change to 'GREEN' it should be assumed as Block Instrument failure for the particular section and necessary action as per GR.14.13 is to be followed. The axle counters are interlocked with the respective block instruments for that section. If axle counter fails, Advanced Starter signal 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 to be initiated by the SM at the receiving station only after physical verification of complete arrival of train by exchanging private number. The resetting can be accomplished only with the co-operation of SMs at either end of the block section. Details of resetting procedure is given in Appendix-'B'.

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

6.2 Whenever signalled movement is made, it is necessary that such a move is made from stop signal to stop signal and that all the track circuits enroute are occupied and cleared in accordance with the train movement and unless such a movement is

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completed as indicated on the panel, it would not be possible for altering the route or position of points unless special recourse is taken for emergency operation of release of route and point operation.

6.3 VERIFICATION OF LINE CLEARANCE BY SM ON DUTY FOR RECEPTION OF TRAIN INTO STATION YARD:

In the station yard a route on the running line comprises of 'entrance', 'berthing' and 'despatch' portion of the yard and this portion of the yard should be clear of any obstruction for the passage of a train or for any other movement. The clearance of the route including overlap must be ensured by SM on duty personally for all trains before any movement is permitted on the concerned route subject to the conditions such as locking of points etc.

6.4 When a train is to be despatched from the station yard on 'signals' the SM on duty must ensure that the route between starter signal and block section limits demarcated by the advanced starter is clear of any obstruction (which also include point zone track circuits on the route) before taking 'OFF' departure signals.

6.5 NON-SIGNALLED SHUNTING MOVEMENTS:

Whenever a non-signalled move is made the SM on duty must ensure that the concerned points on the route (both facing and trailing) are properly clamped and padlocked. Further he must ensure that the points control switches are in appropriate position and the SM's panel lock-up key is in the personal custody of the SM on duty till the shunting operations of non-signalled shunt operations are completed and the normal working shall be resumed by the SM on duty after proper documentation of the fact that there is no vehicle standing on any of the point zones constituting an obstruction on the said line.

6.6 CRANK HANDLE FOR EMERGENCY OPERATION OF POINTS:

6.6.1 Crank handle is interlocked with the signalling and interlocking system at the station and the crank handle with in normally locked up in the RKT instrument at the station can be taken out only when all the signals are in the normal 'position' and the route is not locked
for whatever reason. The reason can be effected by operating the push buttons for its release and when this key is taken out, the signals readings over particular point in either direction cannot be taken 'OFF'.

6.6.2 At this station IRS Rotary type electric point machines are provided. When once the crank handle is used for setting the points in the desired position, these points cannot be operated from the panel till CH key inserted in the RKT and turned.

6.6.3 On account of the doubtful operation of any track circuit by a light vehicles/vehicles including self propelled vehicles such as motor trolley or a light steam or diesel shunting engine or a tower wagon, it indicating the occupancy of the track, it is

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necessary that the SM on duty satisfies himself that the said vehicle/vehicles has been cleared the point zone track circuits by observing the track indications of the track on either side of the crossovers are showing occupy and clearance in sympathy with the train movement.

6.6.4 **PROCEDURE TO BE FOLLOWED IN CASE OF FAILURE OF SIGNAL OR POINTS & USE OF EMERGENCY CRANK HANDLE.**

Whenever a signal or a point becomes defective any movement over the points on the running lines, should be made after clamping and padlocking both the facing and trailing points. SM on duty is personally responsible to supervise correct settings, clamping and padlocking of the points for all trains at this station.

a) In case of failure of a signal or a point and in case the point cannot be operated from the panel, the emergency crank handle which is interlocked with the system is to be extracted and the following procedure has to be followed.

b) One common emergency crank handle is provided for all motor operated points. This is mechanically revitted to the key of RKT. This key along with crank handle can be released from the RKT by pressing the common RKT push button after cutting the seal between RKT and the crank handle. All signals will be locked in the 'Normal' position as soon as the crank handle is released from the RKT. The SM on duty in case of point motor failure, will take out the crank handle and arrange to set the point manually be inserting crank handle on the motor.

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

d) The cases of failure of motor operated points should be promptly repeated to the concerned signal maintainer/signal inspector for immediate rectification.

6.6.5 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 shall obtain acknowledgement of the Signal Official in the emergency Crank Handle Register. All the concerned Points shall be treated as defective till the Emergency Crank Handle is returned back by the S&T official to the Station Master on duty and housed in the concerned RKT in proper position.

6.6.6 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 of all the lines should be treated as Non-interlocked and the Station Master on duty is responsible for introduction of Non-interlocked working and the trains will

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be 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.

6.6.7 The case of failure of Motor Operated Points should be promptly reported to the concerned Signal Inspector/ESM for immediate rectification.

6.6.8 **6.6.8** The Emergency Crank Handle Register is to be maintained in the following Proforma by the Station Master on duty wherein the particulars of usage of the Emergency Crank Handle must be recorded.

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

IMPORTANT NOTE:

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

6.7 INSTRUCTIONS REGARDING STABLING OF TRAINS ON RUNNING LINES:

Whenever a running line is not used either by not passing a train or by stabling train for a duration of more than ten hours the use of said running line for passing the trains "IN" "THROUGH" and "OUT" at the station has to be done with a lot of care and diligence and the SM on duty shall meticulously observe the proper functioning of the track circuited areas and such observation should continue for a minimum of four to five trains there after. If the SM on duty is not satisfied with the proper functioning of the track circuits in which the train was earlier stabled, the signals leading to the line shall be suspended and the S&T maintenance staff be informed

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for attending to this.

7.1 RKT INSTRUMENT FOR SIDING OPERATION

The siding points are operated locally by Arc levers at site and these points are assured with the panel interlocking system. The siding points thumb switch has to be in the 'Key In' position normally and whenever it is necessary to operate siding, this point thumb switch has to be turned to 'Key Out' and when conditions are satisfying for such a shunting movement, the siding control 'Key' can be extracted from the corresponding RKT instrument fitted in the SM'S office and when once this key is taken out form the RKT, the siding can be operated by releasing the key locked points on the siding and till such time the key is not restored to the RKT instrument and turned in, and the corresponding siding point thumb switch on the panel resorted to 'Key In', no signal movement on any direction on the corresponding line is possible.

7.2 STATION MASTER'S KEY:

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

8.1 EMERGENCY OPERATION:

The following are the instructions for Emergency operations.

8.1.1 CANCELLATION OF ROUTE WHEN ONCE HOME SIGNAL IS TAKEN OFF:

When once a Home signal is taken 'OFF' and whenever the approaching train has entered the short length approach track circuit in rear of the concerned distant signal or not, the route gets dead approach locked. If it becomes necessary to stop the train at home signal and change the route for the same train or any other operation, the SM on duty shall put back the home signal to 'ON' position by pulling the concerned home signal button and then press route cancellation button (EGN) and the common button (EGGN) provided on the panel board, simultaneously. With this operation a white indication will lit on the route cancellation veeder counter and continues for 120 seconds and then extinguished. After this duration of 120 seconds, veeder counter counts the next higher number and also locking on the route gets released. The SM on duty shall record the last veeder counter number in TSR during each shift. The emergency route cancellation button sealed by S&T Department.

8.1.2 FAILURE OF BLOCK INSTRUMENTS:

Single line Tokenless Block instruments are interlocked with the first stop signal and the last stop signal of the station as also with the catch siding and slip sidings.

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8.1.3 Whenever the block instrument fails with the handle in TRAIN GOING TO (TGT) position, the trains have to be piloted past the first stop signal or the last stop signal at the station governing the block section. When the trains are to be piloted 'IN' or 'OUT' the points including slip sidings points can be operated from the panel and all points on the route should be clamped and pad locked (both at facing and trailing end)

8.1.4 When the block instruments fails with its handle in TRAIN COMING FROM (TCF) position, the trains can be received on a signals by operating concerned points either individually or through route initiation. But trains have to be piloted OUT past the last stop signal or the station governing the block section by manually operating the slip siding point from the panel and all points controlled by the Advanced Starter shall be clamped and padlocked. The train can however be received directly past Home Signal form the concerning block section by route initiation as already explained.

8.1.5 When the block instrument fails in the normal position i.e., line closed position, neither the last stop signal nor the first stop signal can be taken off and the trains are to be piloted IN and OUT by setting the slip siding point and catch siding point with crank handle and other from the panel. All the points on the route (both facing and trailing) are to be clamped and padlocked before piloting IN or OUT a train.

9.0 <u>NUMBERING OF POINTS:</u>

9.1 No. 11 control hot axle siding key taking off from line No. 1(KTV end).

9.2 No. 12 slip siding point at KTV end.

9.3 No. 13 cross over points between main line and line No. 3 KTV end with sand hump.

9.4 No. 14 crossover points between main line and line No. 1 towards KTV end with overrun line.

9.5 No. 15 crossover points between main line and line No. 3 KRDL end with sand hump.

9.6 No. 16 cross over points between main line and line No. 1 KRDL end with sand hump.

9.7 No. 1 control catch siding point towards MRDL end.

10.0 <u>NUMBERING OF SIGNALS:</u>

S.No	Signal No.	Function
1	1D	Up Distant Signal.
2	1A	Up home signal for line No. 1

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3	1B	UP home signal for line No. 2
4	1C 1 & 1 C 2	UP home signal for line No. 3
5	2	Down advanced starter
6	3	Down main line starter
7	4	Down starter for line no 3.
8	5	Down starter for line No. 1
9	6	UP starter for Line No. 1
10	7	UP starter for Line No. 3
11	8	UP main line starter
12	9	Up advanced starter of KVLS cum Distant signal of catch siding
13	10-A 10-A 2	Down home signal for line No. 1
14	10-B	Down home signal for line No. 2
15	10-C	Down home signal for line No. 3
16	10-D	Down distant signal

10.0 NUMBERING OF SIGNALS AT CATCH SIDING:

S.No	Signal No.	Function
1	2	Down Home signal of catch siding.
2	2 R	Repeat Down Home signal of catch siding.
3	3	UP Home signal of catch siding.
4	4	UP Home signal of catch siding.

11.0 INTERLOCKING OF SIGNALS HOME & STARTER SIGNALS WITH POINTS:

All running line points are fitted with facing point locks in the point machine and facing plunger type locks for the derailing switches where separate point machines are provided and all are electrically detected by the relevant Home signals and starter signals.

11.1 Advanced starters are interlocked with respective block instruments in 'sending' position i.e., 'Train going to position (TGT).

11.2 Home signals are interlocked with block instruments. The Block instruments cannot be operated unless the respective home signals (as also slip siding and catch siding points) are in normal position.

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

12.0 LOCKING OF RELAY ROOM:

The relay room is provided with double locks as necessary vide Rly. Board's circular No. 75/W3/SG/G/1/DT. 16.2.79 (issued vide DSO & DSTE's joint safety

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circular No. 85 of 1982 circulated vide DS/WAT's endorsement No. WTA/24 date 31.5.1982 and OM 1.14.

12.1 The Dy. S.S/.SM shall ensure that the Relay Room key is given to the S&T maintenance staff under clear signature as and when required for their normal maintenance and special works and that the key should be returned by the staff immediately after completion of their work and the documentation should be made in the Relay Room Key register maintained at the Station according to SR 3.51.05 and OM 1.14.

Before issuing the relay room key SM on duty shall obtain a clear remark from the S&T staff in the relay room key register that they will not interfere with safe passage of trains and in absence of such remark the interlocking shall be suspended and train piloted in or out as per SR 3.69.03 and GR 3.70 with SR thereto.

13.0 INSPECTION OF POINTS BEFORE DECLARING THEM DEFECTIVE:

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

14.0 RECTIFICATION AND CHECK BEFORE RESUMING NORMAL WORKING:

It is only 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 and it is only after the Station Master on duty has personally checked this defective gear and is satisfied that it is in good and proper working order, he shall resume the normal working of the said defective gear in terms of SR 3.64.04 (c) and (d).

15.0 LIGHTING OF SIGNAL LAMPS AND THEIR MAINTENANCE:

The Station Master on duty at every shift must also ensure from the Panel Board that all the signal lights are burning properly and brightly. This fact must also be recorded in the diary under a separate entry and confirm to the section controller on duty as per instruction contained in Divisional Safety Circular No. 82/82, Dated 2.5.82 and GR 3.49(3) and SR thereto.

16.0 CORRECTING TIME IN STATION CLOCK:

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

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17.0 NORMAL POWER SUPPLY:

The Station works on 230 Volts single phase power supply. The normal power supply is from the auxiliary transformer connected to OHE traction distribution.

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

Normal power supply to the Signalling and interlocking installations at this station is drawn from AT power supply and the local power supply as stand by supply. Auto changeover switch is available in SM's room to change power supply from AT to Local at the time of power failure. The S.M must however maintain the record of power failure of the AT supply he must promptly report the failure to the Section controller and the concerned Electrical and S&T maintenance staff.

19.0 TELECOMMUNICATIONS:

a. Telephone attached to Tokenless block instruments is connected to adjacent block stations on either side.

b. Electric communication equipment (Magneto phone) is provided for block stations on either side.

c. The station is connected to OEC-KRPU control circuit.

d. The station is connected to VSKP-KRPU traction power control circuit.

e. The station is connected to VSKP-KRDL traction loco control.

f. The station is connected to Goomties at the top most point at either end of the yard (by means of portable telephone).

g. Telephone communication is provided between the station and catch siding goomty.

h. VHF communication is provided.

i. BSNL telephone is provided.

j. The station is connected with TLC telephone.

20. FAILURE OF COMMUNICATIONS – FAILURE OF BLOCK INSTRUMETS:

1) In the event of suspension / failure of Block tokenless instrument line clear transaction shall be made on block telephone attached to Block tokenless instrument exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).

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2) In the event of. suspension / failure of Block tokenless instrument and Block telephone attached to Block token instrument line clear transaction shall be made on station to station Magneto phone exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).

3) In the event of. suspension / failure of Block tokenless instrument, telephone attached to Block tokenless instrument and station to station magneto phone, line clear transaction shall be made on control telephone exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).(C).

4) In the event of. suspension / failure of Block tokenless instrument, telephone attached to Block tokenless instrument, station to station magneto phone, control phone, line clear transaction shall be made on VHF set by exchanging identification number and supported by a Private number vide SR 6.02.06(1)(a).(C).

5) In the event of failure of all communications trains shall be worked in terms of SR 6.02.04.

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

Digital axle counters are provided between KVLS-BGHU and KVLS-SMLG single line section for last vehicle verification. The occupation and clearance of the axle counter section is indicated in the reset box provided in SM's office by 'Red' and 'Green' lights respectively.

If Block proving Axle counter fails, the Last stop signal at the rear station cannot be taken 'OFF' and Block instrument at receiving station cannot be turned to "Line Closed" position after arrival of a train and in such case, resetting of last vehicle checking device is to be resorted. After complete operation of resetting, LVCD axle counter will display 'Section clear' indication only after the passage of next train which is to be piloted. 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'.

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

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22.0 RESETTING OF LVV DIGITAL AXLE COUNTER:

i) After complete arrival of the train, if the LVCD axle counter continues 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.

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Working instructions of mid-section catch siding situated at KM 87.125 between KVLS- SMLG.

1.1 LOCATION:

A mid-section catch siding is situated at KM 87.125 between SMLG-KVLS facing the falling gradient in the down direction of the traffic to absorb the velocity of a down train due to continuous falling gradient from SMLG station. The installations (including engineering fixed signals) confirm to SI plan No. 9062 Alt-C)

1.2 DESCRIPTION:

The catch siding of 823 m point will be normally set to the catch siding. The point is operated by a electric point machine and is interlocked with Tokenless block instrument at KVLS for section KVLS-SMLG. The catch siding is protected by colour light home signals with relevant distant signals at both direction. A telephone is provided at Goomty to communicate with SM/KVLS along with the RKT with the Key Q as in locked position at catch siding Goomty. The key shall be kept in the personal custody of the SM on duty at KVLS.

1.2.1 AUXILIARY PANEL:

An auxiliary panel board is installed at KVLS station master's office. This lay out of catch siding along with track circuits and signal indications is depicted on the auxiliary panel. Overshooting indication along with veeder counter is provided separately for signal No. 2 and signal No. 4. A rotary switch is provided for operation of Catch siding point to normal. This panel is provided with SM's lock up key.

1.2.2 CATCH SIDING OPERATION:

The catch siding point is interlocked with Tokenless block instrument at KVLS for section KVLS-SMLG such that the point could not be set to running line unless the block instrument is in 'receiving' or 'sending' position and the block instrument could not be turned to normal unless the catch siding point is put to normal position.

FOR DOWN TRAINS:

A speed sensing device connected to short length track circuits at 15 Kmph speed board and before catch siding home signal No. 2 is provided. When a down train passes between and over these track circuits at a speed not exceeding 15 Kmph, the speed sensing device triggers operate the catch siding point to running line.

FOR UP TRAINS:

The catch siding point automatically gets set to running line when the up advanced starter signal of KVLS station is taken 'OFF'.

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(Detailed working is given at item NO. 2.1.1 and onwards)

1.3.1 PROVISIONS OF INTERLOCKING AND OTHER DETAILS:

The catch siding points are interlocked and protected by multi aspect colour light home signals in either direction with the addition of a starter or the down direction.

1.3.2 The following are the details of the signalling and interlocking installations installed at this catch siding.

Sl.No	Gear Lever No.	Description
1	Point No. 1	Catch siding point interlocked with down home signal No. 2 and up home signal No. 3 and track locked by point zone track circuits between down home signal No. 2 and up home signal No. 3 and controlled by speed sensing device operated by the trains coming from SMLG.
2	Dn home signal No. 2	Protecting the catch siding points in the Dn direction.
3	Up home signal No. 3	Protecting the catch siding points in the Up direction.
4	Signal No. 2 Repeater	
5	Distant signal with (p) mark	
6	Dn signal No. 4 speed termination board.	To ensure passage of a Dn train with speed not exceeding 15 Kmph over catch siding point.
7	UP goods warning board.	
8	Engineering fixed signals i.e. caution board, and speed termination board as per SR 15.09.02(a) (b) and (c)	
9	Six short length track circuits 2 AT, 2 BT, 2 CT, 1 T, 3 T, 3 AT, 4 T for operating the speed sensing device	
10	Goomty-RKT with a telephone connected to SM/KVLS.	
11	An emergency socket at the Goomty.	

1.3.3 PROVISIONS OF INTERLOCKING AND OTHER DETAILS – SIGNIFICANCE OF SIGNAL ASPECTS:

The significance of the various signal aspects and indications is as follows.

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Dn distant signal No. 02 – The signal normally shown 'Yellow'

Dn home signal No. 2 – The signal normally shown 'Red' and when the catch siding point is set to running line, this shows 'Yellow'

UP home signal No. 3 – The signal normally shown 'Red' and when the catch siding point is set to reverse (running line), this shows 'Green' aspect.

UP home signal No. 4 – The signal normally shown 'Red' and when the signal no 3 shows green, the signal no. 4 will show green.

UP advanced starter signal No. 9 of KVLS – The normal aspect is 'Red'. When line clear is obtained signal is taken 'OFF' assumes 'Yellow' and assumes 'Green' when the catch siding signal No. 3 is in 'OFF' position.

1.3.4 In addition to these multi aspect colour light signal there are engineering fixed signals according to G&SR 15.09.02(a) (b) & (d). These are also shown in the station working rule diagram.

1.4.1 CONTROL OF SIGNALLING APPARATUS THROUGH SPEED SENSING DEVICE:

The down trains need not come to a stop at this catch siding i.e. in the loaded direction travelling down the gradient according to the standard catch siding installations.

1.4.2 The catch siding point set automatically after sensing the approaching speed of a train between the pre-determined points and if the speed does not exceed 15 Kmph or if the train has not over-shoot down home signal No.2, the catch siding point would automatically set to the reversed position connecting to the main running line for the through passes of down train where after the down home signal no. 2 shown OFF aspect.

1.5 SPECIAL SANCTION:

The provision of speed sensing devices and the automatic operation of both catch siding point has been specially sanctioned by CRS vide his sanction No. 165, dt 6.5.78 and No. 371/III/A/VIII/5 dt. 10.5.79 and to this extent neither there is need for the Dn trains to stop short of this catch siding point nor there is any occasion for the down trains to go over these catch siding points at a speed I n excess of 15 Kmph and thereby the necessity of taking a certification, etc. from Sr. DME/DME and DEE (R&D) in terms of G&SR 3.50.02(b) is dispensed with.

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1.6 INTERLOCKING WITH TOKENLESS BLOCK INSTRUMENTS:

The catch siding point including the speed sensing device, etc. are directly interlocked with the Tokenless block instruments at KVLS station for section SMLG-KVLS. This interlocking while controlling the signals (including departure signal) of catch siding in conformity with the direction of the train movement, it at once affords a discrimination which has been necessitated for exclusive operation of over shooting indications and the records there of to trains running on proper line clear on token less block instruments.

1.7.1 DEFECTS OF FAILURES OF TOKENLESS BLOCK INSTURMENTS:

CATCH SIDING OPERATION:

In case of failure of Tokenless block instruments, however, the catch siding points are to be manually operated by crank handle at site both for up and down trains and the trains passed past the catch siding point by crank handling and padlocking them on proper authority.

1.7.2 SPECIAL AUTHORISATION FOR T.P.M TO CLAMP AND PADLOCK THE CATCH SIDING POINTS:

The catch point is situated at about 4 Kms away from the KVLS towards SMLG end hence the TPM of KVLS has been specially authorised to crank handle this catch siding point clamp and padlock it as a special case for all trains during failure of the point to set automatically.

2.1.1 OPERATION FOR MOVEMENT OF DOWN TRAINS – SENSING OF SPEED TRAINS RUNNING AT 15 KMPH OR BELOW BETWEEN SPEED RESTRICTION BOARD AND ATHE DOWN HOME SIGNAL NO. 2 WITHIN COUNT DOWN OF 120 SECONDS (ON THE APPROACH OF CATCH SIDING POINTS):

The catch siding point is normally set to the catch siding so that when a DN tain exceeds a speed of 15 KMPH while approaching this catch siding over-shooting the Dn home signal No. 2, it enters the catch siding.

2.1.2 However, when a Dn train passes the 15 kmph speed restriction board at a speed not exceeding 15 kmph if the locopilot does not over-shoot this speed while approaching the down home signal no 2 the catch siding point controlling apparatus is triggered by the speed sensing device and set the catch siding point to reverse position and the home signal no. 2 assumes off aspect. The distance between the 15 kmph speed restriction board and track circuit no. 2 C1 being the function for shown the speed of that train in witch an element of 120 second count down time.

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2.1.3 SENSING THE SPEED OF PASSING 15 KMPH BOARD IN EXCESS OF 15 KMPH AND WHEN THE LOCOPILOT IS ABLE TO CONTROL HIS TRAIN AT DOWN HOME SIGNAL NO. 2 WITHIN A COUNT DOWN TIME OF 120 SECONDS:

When a down train passes the 15 kmph speed restriction board at a speed in excess of 15 kmph but if the locopilot is able to control his train at Dn home signal no. 2 before count down of 120 seconds, the occupation of 2CT by the stopping train would trigger 'OFF' another count down of sixty seconds time after which the catch siding point operation is initiated and the Dn home signal No. 2 assumes OFF after the catch siding point is housed and locked to the main running line through towards KVLS.

2.1.4 LOCOPILOT OVER SHOOTING SIGNAL NO. 2 AND EMERGENCY KEY OPERATIONS:

If the Loco pilot of DN train passes 15 kmph speed restriction board and travels the length of the track between 15kmph speed board & Home signal no.2 in excess speed and unable to stop train at Home signal no.2, the train will enter into the catch siding. In such cases an overshooting indication along with an audible and visual "RED' indication appears in SM's panel. These indications continue to appear unless the SM acknowledges the button. The SM on duty can then initiate emergency operation of catch siding point by transmitting the crank handle control for the point no.l. The details of this operation is mentioned in paras 3.1 to 6.1.1 of Appendix B-l.

2.1.5 SENSING SPEED AND CONTROLLLING DEPARTURE SIGNAL NO. 3 WHILE DOWN TRAIN NEGOTIATES THE CATCH SIDING POINT SET TO THE RUNNING LINE:

When once the catch siding point is set in REVERSED position connecting the running line through, the Dn home signal No. 2 assumed OFF aspect and the locopilot enters main running lines through toward KVLS traversing over the catch siding point.

2.1.6 It has however, been found expedient to contain the speed of Dn. Trains while passing over the catch siding point with a speed of 15 kmph and for this purpose another set of speed sensing device has been installed and the locopilot has to approach the Dn starter signal No. 4 at a speed not exceeding 15 kmph and if he does so the down starter signal No. 4 assumes OFF. If he cannot remain the speed limit of 15 kmph as also cannot stop at down starter signal No. 4 and over-shoots occupying track circuit, 4 AT an over shooting indication appears o the SM's auxiliary catch siding panels in the SM's office as mentioned in para 2.1.4. Station Master on duty has to stop the audible alarm by pressing the acknowledgement button. Thereafter the SM on duty has to authorise the movement of this Dn train beyond signal no. 4 towards KVLS station by authorising the locopilot so, according to extant instructions over the telephone provided on the signal No. 4.

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2.1.7 At the catch siding goomty a points to point magneto telephone connecting SM on duty KVLS with goomty is provided. In the goomty on HKT interlocked with the auxiliary panel and block instrument of KVLS station is provided for emergency operation of the catch siding points. The key interlocked in the HKT in the normal position and can be extracted only when the SM on duty at KVLS operation the release button.

3.1 OPERATION OF CATCH SIDING POINT WHEN IT FAILS TO SET FOR UP TRAINS:

The SM on duty shall depute the station TPM giving the keys of the catch siding goomty and also arrange for the sectional ESM (if available) to go along with the TPM to catch siding point. After establishing telephone communications with the TPM from catch siding goomty the SM on duty shall transmit the catch siding point crank handle through RKT to the TPM who shall extract the same and set and clamp the catch siding point of running line and exchange a private number with SM on duty as an assurance that the catch siding point is correctly set and clamped to main lien, ON receipt of the private number from the TPM the SM on duty shall issue piloting out order T/369(3b) to the locopilot of the up train to pass signal No. 3 of the catch siding at ON position. After passage of the train, the ESM shall attend the failure and rectify.

No attempt should be made under any circumstances to rectify the failure in face of the approaching train. If the Tokenless block instrument at KVLS for section KVLS-SMLG is suspended with its handle in sending position (not due the failure of catch siding point) the up train allowed on proper line clear from KVLS need not be piloted out at catch siding past signal No. 3 (UP home of reversed as soon as the up advanced starter of KVLS is operated and signal No. 3 assured OFF indication)

3.2 OPERATION OF CATCH SIDING POINT WHEN IT FAILS TO SET FOR DOWN TRAINS:

Even after the train has stopped at the Dn home signal for more than a minute, if the catch siding point does not set to running line and consequently the Dn home signal also does not assures off, the locopilot of the Dn train will whistle at once to draw the attention of the Station staff when the SM on duty on seeing in the panel, that the catch siding point is not cleared within the specified time, the SM on duty shall dispute the TPM giving him the goomty keys and piloting memo T/369(3b) with instructions to pilot the train only after setting, clamping and padlocking the catch siding point to running line and exchange of a private No. with SM on duty as an assurance of having done so. The SM on duty shall arrange to depute the sectional ESM (if available) along with TPM.

In case of passenger trains, as an additional precaution the locopilot/guard shall bring his train to a dead stop short of the catch siding point and satisfy himself personally that the catch siding points correctly set to main running line through to KVLS, clamped and padlocked before passing the catch siding point.

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4.1 **SETTING THE CATCH SIDING POINT WITH CRANK HANDLE BY TPM:**

The TPM shall set and clamp the catch siding point to the running line with crank handle on receipt of the same through HKT at the goomty for up and down trains as ordered by the SM on duty.

4.2 The TPM checks the points, and remove obstructions if any found between the tongue and stock rails and report to the SM on duty if otherwise, the SM on duty shall release the crank handle at the catch siding goomty by pressing the RKT button at KVLS station. This should be done only after exchange of private number.

4.3.1 **SETTING THE CATCH SIDING POINT:**

The TPM shall remove the crank handle from the RKT and with it, manually set the catch siding point to the running line and return the same back through the RKT. He will then clamp the catch siding point and exchanging private NO. as an assurance of having done so. The SM on duty shall then authorise the TPM to pilot IN/OUT the train over the catch siding point by exchanging a private No.

4.3.2 The TPM is personally responsible to keep the keys of the padlock (which is put on the catch siding point) in his personal custody till the movement over the catch siding point is completed in either direction and he should restore the catch siding point to the normal position after consulting the SM on duty.

4.4 After the complete passage of the train and clearance of the point zone track circuits between signal No. 2 & 3 the TPM will unlock and remove the clamp and advise the SM on duty. The SM on duty will once again release the crank handle with which the TPM will manually reset the point to catch siding. He will then return the crank handle with the exchange of the private No.

4.4.1 In the event of Dn train overshooting the catch siding signal No. 2 an audible alarm and visual indication appears KVLS station. The SM of KVLS after acknowledging the alarm by pressing the Overshot Muting button will record the particulars of the down train which overshoot the catch siding. The veeder counter will register a higher number. SM/KVLS must record this number in a separate register for catch siding and as also in the train signalling register with the reason s in RED ink.

5.1.1 **MOVEMENT OF TRAINS:**

Whenever an up train has to go or this section the moment the line clear is taken by the SM on duty at KVLS from SMLG and the advanced starter signal No. 9 is operated, the catch siding point first set in the reversed position connecting the main running line through and up home signal No. 3 of the catch siding assumes OFF, and then the advanced starter signal NO. 9 assume green aspect. As soon as this up train passes past the catch siding point, the said point may get back to the NORMAL position protecting the KVLS Yard.

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5.1.2 Whenever it is necessary to operate catch siding point with crank handle, in case of emergency, 'due to over shooting or in case of failure due to any other cases it is necessary that emergency crank handle of this catch siding point, which is at KVLS station is transmitted to the traffic pointsman at the catch siding goomty.

5.1.3 The crank handle has to be used for operating catch siding point manually at this station in the following cases:

a) When the Dn train overshoots the down home signal No. 2.
b) When the catch siding point become defective.

In these cases when the point is operated manually by means of crank handling, the point is to be set in the desired position and after that this point is to be clamped and padlocked. Further it is stipulated that in the first case i.e. due to failure of trains due to over-shooting, the point can be set in the reversed position, clamped and padlocked and after the passage of the trains after piloting 'out' or piloting 'IN' the crank handle can be transmitted to the station whereafter the normal working may be resumed. In the second case the catch siding point is to be operated by crank handle and the trains piloted past the catch siding point in either direction clamping and padlocking it and this procedure should continues till the rectification is reported by the S&T staff.

6.1.1 As an additional precaution to prevent in advertent automatic normalisation of the catch siding point by the passage of the train, the SM on duty should keep the catch siding points switch in the central position as soon as the catch siding points set to running line indications appear on the panel board and lock up panel with SMs lock up key. Unless and until the panel SMs lock up key is inserted ands turned and the rotary switch of the catch siding point will not set to the normal position viz, to the catch siding, the SM on duty must ensure that the last vehicle of the train has cleared the catch siding points in between signal No. 2 and 3 of the catch siding before turning the catch siding point switch form center to normal. However, it should be noted that he block instrument cannot be closed until and unless the rotary switch is put back to the central position.

6.2 AUTHORISATION BY SM TO ESM:

In no case shall the ESM attend the failure unless he is authorised to do so by the SM on duty serving with a failure message and the ESM giving a disconnection memo to the SM on duty shall take special precaution to see the conditions for giving such a memo are consistent with the safety of the train movement according to the instructions.

7.1 POWER SUPPLY TO THE INSTALLATIONS:

This catch siding signalling and interlocking installations are fed from the auxiliary transformer tapped from the 25 KV AC traction centenary at the catch siding location. When this power supply fails the signals show no light and catch siding

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point do not operate automatically. SM on duty shall take action as per para 3.1 to 4.4 mentioned earlier. There is no alternative power supply.

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APPENDIX ‘C’ TO STATION WORKING RULES OF KARAKAVALASA STATION :

ANTI COLLISION DEVICE [RAKSHA KAVACH]

Not applicable to this Station.

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APPENDIX-'D' TO STATION WORKING RULES OF KARAKAVALASA STATION

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

1.0 STATION SUPERINTENDENT:

He is restored for 8 hrs of train passing duties. He is responsible for the general and satisfactory working of the station and for the efficient discharge of duties by staff working under him. He shall keep all Rulebooks, Registers, Files and documents neat and up to date. He shall ensure that all equipment, apparatus, and instruments including signaling and interlocking gears and fittings are kept clean and oiled by S&T officials. His special attention is drawn to Chapter-II of G&SR and GR 5.01 to 5.08 with relevant SRs and O.M. Chapter XXII. He shall follow the instructions laid down in SR.3.68.01 © and (d) and SR 14.07.01 and B.W.M.2.09 (e). He shall promptly attend to accidents and report them. He shall supervise the work of safe working staff and conduct night inspections and report lapses of staff working under him.

2.0 STATION MASTER:

He is responsible for trains passing during his shift. He shall promptly bring to the notice of S.S/S.M all irregularities and accidents in course of his shift duties. During the absence of S.S/S.M, the duties of the Station Manager will devolve on him. He shall follow SR 3.68.01© and (d) SR 14.07.l and OM Chapter XXII. His special attention is drawn to Chapter-2 of G&SR 1976 and GR 5.01 to 5.08 with relevant SRs. As an assistant to Dy.SS, he shall carry out the instructions given to him by the SS/SM.

3.0 TRAFFIC POINTS MAN :

He shall work under the orders S.S /S.M. on duty. He shall couple and uncouple vehicles under the supervision of S.S /S.M./Guard. He shall operate ground lever/levers clamp and padlock the necessary points for shunting operations. He shall watch and guard the packages and other Railway property lying in the Station premises. He shall be through of displaying hand signals. He shall report any irregularities coming to his notice. He shall do loading and unloading of parcels, smalls and Guard's boxes. He shall do piloting IN and OUT. He shall deliver any official message to the proper person/office. He shall carry out any other duties entrusted to him by the S.S/S.M on duty. He will re-light the BLSB lamp during night.

5.0 SAFAIWALA

He shall attend to the sanitation of the Railway premises including SM Office, platforms, Staff Quarters, Latrines and cleaning of drainage's etc. He shall carry out any other work entrusted to him by the Station Master on duty.

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

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APPENDIX 'E' TO STATION WORKING RULES OF KARAKAVALASA STATION

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ESSENTIAL EQUIPMENT

A list of essential equipment's is given below which shall be maintained in good Working order.

Sl.No	Description	Station
1	Detonators	20
2	Hand Signal lamps (tricolor)	4(2 Spare)
3	Hand Signal Flags	4(2 Spare)
4	Clamps with Padlocks	6
5	Safety chains with Pad locks	6
6	Fire & Sand buckets	5
7	Fire Extinguishers	1
8	First Aid Box	1
9	Stretcher	1
10	Blanket	1
11	Iron Skids	2

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APPENDIX "F" TO STATION WORKING RULES OF KARAKAVALASA STATION

RULES FOR WORKING OF DK STATIONS. HALTS IBH AND OUTLYING SIDINGS.

NOT APPLICABLE.

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