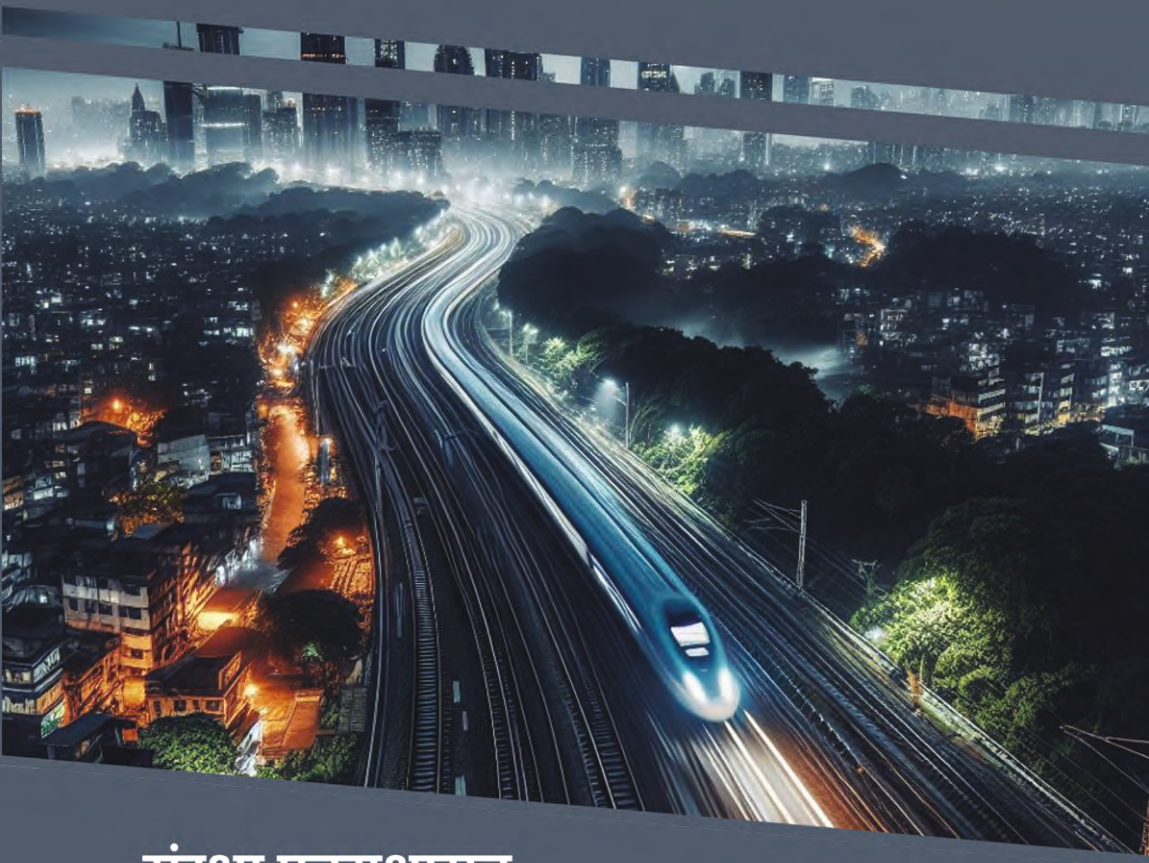
JAN-
MARCH
2024

SAFETY BULLETIN

Safety Department
Eastern Railways



संरक्षा पुनराश्वासन

Sanraksha Punarashwasan

GM's inspection of BOXN Depot UDL , Asansol

Intra Railway Safety Audit at New Coaching Complex ,Sealdah

INDEX

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Patron's Message

मिलिन्द देऊस्कर
महाप्रबंधक

Milind Deouskar
GENERAL MANAGER

सत्यमेव जयते

पूर्व रेलवे
महाप्रबंधक कार्यालय
,17नेताजी सुभाष रोड,
कोलकाता001 700 -
EASTERN RAILWAY
Office of General Manager
17, Netaji Subhash Road,
Kolkata- 700 001

Date: 15.04.2024

MESSAGE

It gives me great pleasure to know that the Safety Organisation of Eastern Railway is bringing out a new issue of Safety Bulletin named "SANRAKSHA PUNARASHWASAN". The safety bulletin contains valuable technical articles, important Joint Procedural Orders, summer precautions and instances of direct contribution by Railway employees in averting accidents.

I hope that every Railwayman would find "SANRAKSHA PUNARASHWASAN" useful and inculcate the philosophy of 'Safety first' for better safety performance. Safety is an ethos that should pervade all activities of Railway operations and maintenance. This ethos has to be instilled and nurtured. The concern for safety has to be all pervasive in the functioning of the Indian Railways.

I convey my best wishes to the safety team and I am sure that this initiative would help in improving the safety standards of Eastern Railway.

(Milind Deouskar)
General Manager

From the editor's Desk

राम बहादुर राय
प्रधान मुख्य संरक्षा अधिकारी
Ram Bahadur Rai
Principal Chief Safety Officer

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12th April 2024

MESSAGE

Railways carry large number of passengers and essential goods daily. Safety is of paramount importance to avoid any accident to protect the life of passengers and also to avoid loss of time and money, due to accident of goods trains.

For above, it is important to enhance the Safety Consciousness amongst the staff and to keep them apprised of the latest safety instructions.

This bulletin being issued is an effort to reiterate latest and relevant important instructions on safety for bringing awareness among the staff.

(Ram Bahadur Rai)
Principal Chief Safety Officer

OUTSTANDING ACHIEVEMENTS IN FIELD OF SAFETY

 **Lallu Yadav** TM -III Under SSE/ PWAY/SPR	Sri Lallu Yadav, Track Maintainer-III (Gateman), under SSE/PW/SPR of AEN/BRP, Sealdah Division, Eastern Railway is a highly motivated, sincere and hard working staff. He has had a commendable performance with utmost sincerity. He has sufficient knowledge regarding Gate operation. On 26.08.2023, he took a prompt action after watching the failure of Track circuit board and after a close review, he found a fracture at Km 22/24-26 and after Informing all concerned authority, he stopped the train and his prompt communication and sincere action helped to prevent an unwanted accident.
 **Sabyasachi Hans** SSE/C&W/SDAH	In LHB rake LWLRRM/LSLRD are run as Guard van and these are provided with hand brake/parking brake which is essential for stabling a rake/coach without active pneumatic brake condition. But it's not possible to understand from guard cabin the status of hand brake whether brake is in released condition or in full application or in partial application. To overcome this problem a system is designed in which there is a indicator fitted inside guard cabin which has three lights i.e red green and yellow. For full Released condition the indicator will turn green, for full application the indicator will turn red and for partial application the indicator will turn yellow. The whole system is designed by Sri Sabyasachi Hans, SSE/C&W/SDAH.
 **Fantus Kumar** TM-IV under SSE/P. WAY/BGP	On 28.06.2023 at 18:45 (AN) Sri Fantus Kumar, TM-IV working as Welder Khalasi under SSE/P.WAY/BGP-II in section MDLE - DUMK, he has seen from cess side a up BCM No. 31035 for TKLE, their one wheel sparking and noise. Thereafter indicate to guard and report to PWI/sectional for stop train. His alertness averted a probable train accident.

 **Irfan Ahmed** LPP/HWH.	On 27.03.2024 at 04:25 hrs. Irfan Ahmed started his Train No. 37371 Up from PF-03 after getting Calling ON signal. While moving towards Sig, No. 164 cautiously he noticed that E/rake of Train No. 13034 Dn is shunted in backward direction towards Jheel siding. He then and then controlled his train and stopped before occupying point. Thus he averted a major accident.
 **Sanjay Kumar-IV** LPM/SBG	On 23.05.2023, while working in Train No-13024(GAYA-HWH EXPRESS) hauled by Loco No- 30191/WAP-5/HWH, LPM-Sanjay Kumar-IV and ALP-N.K.Prabhakar, during approaching towards Akbarnagar, Suddenly they noticed that vibration in OHE and thereafter bracket insulator of Cantilever assembly of OHE mast Km No-326/36 was broken due to thunderstorm. They lowered Pantograph, applied emergency brake and stopped his train at Km No-326/26. The timely action of LP and ALP has prevented the major unusual occurrence and he saved another trains from a severe detention.
 **Sailendra Xalxo,** LPP/HWH.	On 11.05.2023 at 07:25 hrs. while working Train No. 37359, noticed stay tube open out from base and hanging at KM No. 45/15 in Tarekeswar – Mayapur section. He immediately stopped the train and informed all concerned. Thus he saved breakage of Pantograph and major unusual.
 **Dharmendra Choudhury** LP(G)/HWH	Dharmendra Choudhury LP(G)/HWH & Umesh Kumar ALP/HWH did a remarkable job on 18.11.2023 while they were working Dsl/Pilot no. 16, the light engine proceed from TKPR Delhi end to TKPR HWH end by Line no. 12 in midway of journey, they felt lurching. Then and there the crew stopped his light engine & physically examined the line & found the line packing was not proper and several nos of Elastic rail clip missing.

 **Umesh Kumar** ALP/HWH	Then LP informed the matter to PCNL/HWH & also gave intimation YM/TKPR by written. Line was attended by PWI/HWH and rectified The Crew saved unusual occurrence
 **K.K. Gupta** Sr. Passenger Train Manager/ASN	Sri. K.K. Gupta, working as Sr. Passenger Train Manager/ ASN, was doing his duty by 13019 Up (Bagh Exp) on 10.10.23 at KM No.228/17 to 228/23 between Salanpur & Rupnayaranpur, the train was passing through at 01:55 hrs. Sri. K.K. Gupta felt some jerk on that train. He reported to the higher officials about that. The UP Line was blocked and thoroughly checked by PWI/JMT. Due to some abnormalities 30 kmph caution was fixed for the section. 18181 UP & 18619 UP was detained for the block. But for his devotion and alertness on duty an untoward incident was averted.
 **Birendra Goswami** Tech-I/C&W/ASN	On 18.10.23 he was deputed at HWH-end south-side for Rolling-in examination of all Trains passing in UP direction. During Rolling in examination of Train No.-15049 (KOAA-GKP) Exp. on PF No. 4, he detected in the last vehicle Coach No. NE LWRRM-223694/C one S/Side inner wheel primary coil spring in broken condition and immediately informed the on duty supervisor. After checking by the supervisor, the train was allowed to run safely with 95 KMPH speed restriction with a C&W staff escort.
 **Deepnarayan Kishore** Sr. GTM/RNG	Sri. Deepnarayan Kishore, Sr.GTM/RNG was performing his duty on 09.12.23 at Train No. BOXN/E/JMT ex PMLR Siding. During the checking of the load at PMLR Siding of Loco No. 32823 + 32864, he detected CBC breakage of Wagon No. BOXN/E ECR19767, 47th Wagon from Engine. He reported to the on duty Station Master about the breakage. After checking of TXR it was declared unsafe.

<table>
<tr>
<td> 
<u>Satadru Hazra</u>
SSE/C&W/Jheel Siding</td>
<td>Satadru Hazra is a brilliant supervisor with critical thinking and problem-solving ability.HWH-NJP Vande Bharat is running successfully in his guidance. Some of his important works and contributions are as below:
1. Dashboard for critical codes- Development of smart dashboard for analyzing all critical codes occurring during run in Vande Bharat express. This predictive and proactive method has resulted in preventing various major issues which could have led to detention or failure enroute. Some of the examples are as below:
a. Identification of damaged STV
b. Identification of malfunctioning Speed sensor
c. Identification of burnt of PB03 card
d. Identification of malfunctioning LTC module
2. Changing of spring overnight without effecting HWH-NJP VB service- One primary spring of Coach C5 was found broken on arrival of rake at depot. There was only a window of 4 hours to change the spring and get the rake ready for service next day. This task was completed successfully in his guidance.
3. Digital diameter gauge- He has designed and developed an in-house hand-held digital diameter gauge which precisely (within +-0.5mm) measures the diameter of wheels even in pit line.</td>
</tr>
<tr>
<td> 
<u>Bablu Tiggi</u>
Tech-I/C&W/MLDT</td>
<td>On 18.05.2023 Sri Bablu Tiggi, Tech-I/C&W/MLDT was deputed for Rolling in/out examination duty at MLDT Rly. Platform. On Date 12552 DN SC-GHY Express arrived MLDT at 05:32 hrs. During rolling in examination, it was found by him that, Axle Box Face cover deficient in Coach No. NFR LWACCN 1838439 Axle No.-1 station side. He immediately informed the matter to on duty C&W Supervisor. On check by on duty supervisor, train was allowed up to next TXR point RPH, after securing the axle cover and the train departed from MLDT at 5:58 hrs. His sincere and careful observation save from an untoward accident.</td>
</tr>
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SAFETY SUMMARY

Accident Statistics for the year of 2022-23 & 2023-24

Name of the Division	Consequential (RB)		Indicative		Others / Un-usual (Rly)		Yard (Rly)	
Year	2022-23	2023 - 24	2022-23	2023 - 24	2022-23	2023 - 24	2022-23	2023 - 24
HW	1	2	-	4	-	-	1	-
SDAH	1	1	-	-	-	-	-	-
ASN	-	-	------	-	-	-	1	-
MLDT	-	1	-	-	-	-	1	1
Total	**2**	**4**	**0**	**4**	**0**	**0**	**3**	**1**

SAFETY SEMINAR HELD IN EASTERN RAILWAY

From April 2023 to March 2024, 758 Safety seminars have been conducted at various locations of Eastern Railway wherein 40417 field staff, Sr. Supervisors and Officers of all disciplines participated.

Details are given below :–

Month	NO. OF SEMINAR CONDUCTED	Staff Counselled
April/23	74	4880
May/23	75	4045
June/23	78	4209
July/23	91	5511
August/23	82	5413
September/23	57	2148
October/23	105	3084
November/23	44	1929
December/23	29	1499
January/24	26	2061
February/24	28	1237
March/24	69	4401
TOTAL	758	40417

SAFETY DRIVE

	Railway Board
1	Week long railway board safety drive issued on 11.04.23
2.	Week long safety Drive for May 2023 issued 08.05.23
3.	15 Days Safety Drive on fitment of side frame keys in CASNUB Bogies issued on 08.05.23
4.	30 days safety Drive on Foot plating by CLIs with nominated crew for complete beat issued 23.05.23
5.	Week long safety Drive for June 23 issued 12.06.23
6.	07 Days Safety Drive on S&T Items. Issued 05.06.23
7.	15 days Intensive safety Drive issued on 07.06.23 (HAG/SAG at Zonal HQ)
8.	Weeklong Railway Boards Safety Drive for July 2023 issued on 10.07.2023
9.	Weeklong Railway Boards Safety Drive for August 2023 issued on 07.08.2023
10.	Special Safety Drive to prevent cases of fire in trains for 15 days issued on 29.08.2023.
11.	Weeklong Railway Boards Safety Drive for September 2023 issued on 11.09.2023
12.	Weeklong Railway Boards Safety Drive for October 2023 issued on 09.10.2023
13.	Two weeks long Intensive Safety Drive for November issued on 31.10.2023
14	Weeklong Railway Boards Safety Drive for November issued on 15.11.2023
15.	30 days long railway boards safety drive on train operation during foggy and inclement weather precautions.
16.	Railway Board's week long safety drive for Dec 23.
17.	Railway Board's week long safety drive for January 24.
18	Two weeks long Railway board's intensive safety drive issued on 15.01.24
19.	Railway Board's week long safety drive for February 24
20.	Railway Board's week long safety drive (11.03.24) for the month of March '24.
21.	Week long safety drive securing of vehicles/loads/trains/locomotives at stations and in block section.
22	Week long safety drive for identification of signal with poor visibility
23	Safety drive for maintenance of control arm.

Zonal Railway	
1	30 days safety drive on availability of wooden wedges at stable points issued on 15.05.23.
2	30 days safety drive on Monsoon Precaution issued on 20.06.2023.
3	90 days Zonal safety drive on signal sighting issued on 10.07.2023.
4	30 days special zonal safety drive on prevention of SPAD in Eastern Railway issued on 29.08.2023.
5	30 days zonal Railway safety drive on securing of trains at station as per GR & SR 5.23. issued on 05.08.2023.
6	Month long zonal Safety drive of prevention of Cooking on platforms issued on 19.09.2023
7	Safety Drive on officer level signal sighting issued on 22.09.2023
8	15 days long zonal safety drive for inspection of LC gates issued on 11.10.2023
9	30 days Divisional Safety Drive on track defects issued on 15.10.2023
10	Safety Drive for prevention of SPAD issued by CPTM on 06.10.2023
11	15 days long zonal safety drive on prevention of fire issued on 08.11.2023
12	30 days Divisional Safety Drive on prevention of SPAD issued on 14.11.2023
13	15 days drive for unloading of ballast train in terms of provision contained in JPO issued on 15.03.24.
14	03 days long divisional safety drive in connection to Fire prevention inspection of coaching trains issued on 13.03.24.
15	10 days drive on the use of Emergency buttons and how to reduce their use issued on 28.03.24.

SUMMER PRECAUTIONS : DOs and Don'ts

DOs and Don'ts OF LWR FOR MATES & KEYMAN

DOs

1. Check and carry LWR/CWR equipment daily. Each Gang mate/ PWM should keep two Sets of joggled fishplates, 2 clamps, one rail thermometer, special 1m long fish-plates, rail closure pieces, one straight edge and one feeler gauge. The thermometer should be regularly checked with that of standard thermometer kept in PWI's office.
2. Know the td of your section/panels.
3. Keep the ballast section full and in compacted condition particularly in cribs and shoulders. Deficiency in ballast shall be brought to the notice of PWI.
4. Keep close watch on pedestrian and cattle crossings, where the ballast is always disturbed. Make up ballast deficiency promptly.
5. Get your SEJs oiled and greased once in a fortnight.
6. Check the gaps of SEJ at extremes of temperatures.
7. Train men in detecting buckling, rail fractures etc. and protection of the trains in such cases.
8. Keep the patrolling equipments always handy and start patrolling of track as soon as temperature exceeds td + 20^{o}C. This is marked on the thermometer in red.
9. Commence patrolling as per laid down schedule for the prescribed periods.
10. Keep sharp look out for severe alignment defects in summer. Protect the trains and report to supervisors.
11. Keep the anchors wherever provided always butting against the sleepers.
12. Renew fittings only on one sleeper at a time.
13. Ensure that fittings are tightly fitted at proper places at all times.
14. Pack loose sleepers without lifting or opening track in summer.
15. Attend only one or two sleepers at a time for adjusting fittings while removing a kink.
16. Confine essential maintenance to period when the temperature is below td+ 10^{o}C .
17. Impose speed restriction if temperature exceeds td + 20^{o}C during consolidation period.
18. Pay special attention to SEJs, breathing lengths, curves, approaches to level crossings, unballasted bridges, horizontal and vertical curves.
19. Keep the rail thermometer with proper markings with limiting temperature ranges thereon in proper working order. Learn the limits of temperature restrictions as marked on thermometers for various operations.

20. Check that reference posts at SEJ and at centre of LWR/CWR are correctly maintained.
21. Learn the six items

    (i) missing and loose fastenings, (ii) shortage of ballast, (iii)misalignment

    (iv) slewing (v) Lifting (vi) improper packing, about which you should be very careful to avoid buckling.
22. Learn what to do when there is buckling or fracture in the track.
23. Ensure that all bridges and its approaches have all fittings at all times and are regularly tightened.

Don'ts

1. Do not touch the track unnecessarily unless specially instructed by PWI.
2. Do not undertake through packing after, the onset of summer months.
3. Do not open shoulder and crib ballast at one and the same time.
4. Do not try to lift the track while packing sleepers for replacement of fastenings and slewing with crow bars.
5. Do not open the track for more than 30 sleepers in a stretch. Keep at least 30 fully boxed sleeper between adjacent lengths opened out.
6. Do not open the adjacent length till the passage of 20,000 tonnes of traffic or two days, whichever is later.
7. Do not renew more than one sleeper within 30 sleepers at a time.
8. Do not renew fastenings not requiring lifting on more than one sleeper within 15 sleepers at a time.
9. Do not renew fastenings requiring lifting on more-than one sleeper within 30 sleepers at a time.
10. Do not allow loose, missing or ineffective fastenings to remain in track.
11. Do not neglect checking and attending to the breathing lengths of LWR/CWR in a fortnight.
12. Do not lift track by more than 50 mm even if temperature is within td.

Do's and Don'ts for safe working of S&T Gears

I.General

Do's

1. Take pride in providing Safe & Reliable Signaling System,
2. Remember that you are vital and direct action of yours has safety implications either directly/indirectly.
3. Check Station Working Rules (SWR) and ensure its correctness
4. Ensure that completion drawings and plans are available and all the alterations are incorporated.
5. Ensure that all S&T maintenance Registers/Cards are available and updated at station with standard format.
6. Ensure that S&T equipments like Point machines, Relays, LEDs, etc. are replaced as per their codal life.
7. Ensure that alert Messages are coming for exceptions such as Fire alarm SPAD closing/opening of relay room etc.
8. Ask for failure memo and attend failure with proper disconnection. After restoring the failure issue restoration message to SM and also joint restoration message to all concerned with the duty SM.
9. Ensure proper Disconnection and Reconnection of signaling gears at all time including failures.
10. Ensure that entries are correctly filled in all columns of disconnection and reconnection memo. Obtain signature of SM even if disconnection is not granted. Always have a book of disconnection notice in your possession.
11. Follow Maintenance schedules as given in Signal Engineering manual/G&SR of Zonal Railways.
12. Ensure double lock in relay room and sealing arrangements in all signaling system like Block Instruments, Panels etc.
13. Ensure the micro switch used for checking Relay room opening and closing is properly working.
14. Ensure that proper tools are available and Maintainers have proper knowledge of the gear, he has to attend.
15. In any case if a gear is not working safely, it should be suspended and replaced/attended at the earliest.
16. Ensure joint inspections of points and crossings done religiously with all correctness in readings and defects are promptly attended.
17. Be vigilant at all times, particularly while working with field gears.
18. Ensure that all safety features of signaling system like correct dropping of track relay with TSR, obstruction test and track lock test of points, interlocking

of advanced starter with block instruments, LC gates, correct adjustments of contact makers etc., are checked in every maintenance round.

19. Educate the traffic staffs in operation and usage of various S&T equipment to reduce failures due to wrong/ careless operation. Provide reminder notices / instructions near concerned equipment.
20. Maintain all station records/log books.
21. Do take seriously feedback from the operating staff, especially about any unsafe functioning of any S&T gear, do have such cases, thoroughly investigated and also bring it to the notice of your seniors. You may be able to detect a potential safely hazard and avoid an accident.
22. Ensure that all the measuring instruments are in good working condition.
23. Ensure availability of the safety equipment in your possession.
24. Use one power socket for one appliance
25. Switch off the electric supply of fire affected areas.
26. Replace broken plugs and switches immediately\
27. Switch off appliances after use and remove plugs from the socket
28. Use electrical wires, cables and materials of proper capacity and insulation
29. Use switches which clearly indicate "ON" & "OFF"
30. Use insulated wire for neutral and independent wire for Earthing\
31. Check sockets/plugs/wirings thoroughly if any over-heating marks are seen

Don'ts

1. Do not exceed the periodicity of maintenance of an S&T gear.
2. Don't work in haste. Be calm and composed while attending failures. Don't ever adopt short cut methods in attending failures.
3. Do not attend failure without getting a written message/failure memo and obtaining disconnection.
4. Don't infringe any gear or installation as per schedule of dimensions.
5. Do not attend to working S&T gears without disconnection as prescribed in SEM.
6. In case you are unable to attend a failure do not resort to shortcut methods like tampering with WKR, TPR, ECPR, crank handle and LC gate interlocking etc., as these will have disastrous consequences (to be explained with help of relevant accident case studies.)
7. Do not give wrong particulars to your superior or test room after restoring a failure. Right reasons can ensure effective precautions

8. Do not open relay rooms, block instruments, and axle counter rooms without making proper entry in the relevant register for taking the SM's key.
9 Do not ignore repeated and frequent operations of reset facilities/ cancellation facilities of axle counters/signals
10. Do not bypass boom-locking arrangements of mechanical or electrical barriers. If they are not working attend to their basic cause.
11. Do not over energize track relays in any weather condition. Do not make initial adjustment of track relays in rainy season / night time.
12. Don't conduct any test in the face of an approaching train.
13. Don't use mobile phones while working on track.
14. Never have temporary or uninsulated joints on wiring
15. Don't lay wires under carpets, mats or doorways.
16. Don't place bare wire ends in a socket, use a three pin plug top
17. Do not connect fuse in the neutral circuits.
18. Do not replace fuse unless fault is detected

II. Relay Room

Do's

1. Ensure double locking arrangements in Relay Room (S & T and Operating depts).
2. Ensure entry in SM's key register is made whenever SM's key is required to open the Relay Room with proper reason.
3. nsure type, configuration and nomenclature while replacing relay.
4. Check for proper fuses in the relay rack and no fuse is bypassed
5. Check that each relay is properly plugged, clipped/bolted and sealed
6. Ensure proper tightening of cable terminals on racks.
7. Tke full precautions while attending failures / any work inside the relay room.
8. Periodically check the tightness for the earth connections at MEEB, SEEB and all pin earth points.
9. Ensure proper opening and closing of relay room door through an electronic switch and also a message for opening and closing to the supervisor and officers concerned.

Don'ts

1. Do not tamper with the code pins s of the relay while replacing
2. Don't keep extra material/loose wires inside Relay Room

3. Do not leave any cable/wire in hanging conditions.
4. ` Don't interfere with interlocking without taking proper disconnections.
5 Ensure tightness of terminals on K Rack.
6. Correct the wiring particulars written whenever any changes are made

III. Electronic Interlocking(EI)

Do's

1. Diagnostic computer shall be connected to AC Power source with proper adapter/plug.
2. Before powering up the Electronic Interlocking equipment, before that there is no train entering into the section in both Up and Down Directions.
3. Check the SPD Health Indication i.e. whether indication glowing or not in El-Relay Room & EI-IPS Room periodically.
4. Ensure the Maintenance Terminal PC is always ON and verify the Event Data Log Updates.
5. Download the backup of Event logs at regular intervals during AMC.
6. Periodically change over to STANDBY System by shutting Down the ACTIVE System Quarterly as per prescribed changeover procedure.
7. Observe all Electrostatic discharge precautions while handling any Printed Circuit Board or board component.
8. Front and back door of the El systems should be always closed.
9. Ensure diagnostic status in "NORMAL" position before starting the system.

Don'ts

1. Don't Use Radio equipment within the immediate vicinity of Electronic Interlocking systems as Radio transmissions can affect electronic equipment.
2. Don't Make Circuit Alterations or Repairs to the Electronic Interlocking system.
3. Don't Install or remove any printed circuit board with battery/ power applied to the system.
4. Don't try to Troubleshoot without training.
5. Don't switch off any of the El-IPS modules when El is in operation.
6 Don't remove Modules, Fuses or connectors when El is in operation.
7. Don't forcibly Pick up any Relays in El Room/Field.
8. Don't remove any El Relays.
9. Don't touch the board components/repair.

10. Don't change computer setting/Application data.
11. Don't disturb OFC cable or connector.
12. Don't switch OFF MT-PC/Loading any software/Files.
13. Don't use Removable Media/USB/DVD/CD in VDU & MT-PCs.
14. Don't attempt to repair any Electronic Interlocking system printed circuit board or peripheral device in the field.
15. Don't Reset the system when signaled.
16. Don't Force boards into the slots during insertion

IV Video Display Unit(VDU Panel)

Do's

1. Ensure that one VDU is in working mode and other VDU is in standby mode.
2. Ensure that at least one successful changeover of the online system to standby system is done, as per prescribed periodicity
3. Provide USB access lock software in both the systems to protect against virus.
4. Only one VDU should be switched off at a time whenever required.

Don'ts

1. Don't place any objects/container/eatables around embedded computer monitors.
2. Don't keep liquid or inflammable items close to VDU system.
3. Don't insert Pendrive/USB without authorization.
4. Don't install and keep antivirus software or unnecessary software and files in both VDUs.
5. Don't shutdown the VDU system at any time.

V. Control cum Indication Panel (CCIP)

Do's

1. Check that the Emergency Point Operation (EWN) button and Emergency Route Section (EUYN) buttons are sealed.
2. Check the entry in the concerned register and ensure that it is correctly maintained, get it sealed and ascertain the cause.
3. Check that all the counters are working properly and in accordance with entries in:
   a) EWN Counter Increments on each emergency point operation.

b) EUYN Counter Increments on each emergency route section release.

c) EUUYN Counter Increments on each emergency route release.

d) OYN Counter Increments on each Emergency overlap release.

e) COGGN Counter Increments on each calling-on signal clearance operation.

4. Check that, when SM's key is taken out, it shall not be possible to do anyoperation from the Control Panel. Also ensure that the signal can be put back to 'ON' in this condition without altering the route.
5. Check that the buzzer and 'Push button/buttons have been left pressed' indication is working.
6. Check that the panel indication for the flasher is working properly.
7. Check that adequate numbers of button collars are provided on the operating panel.

Don'ts

1. Don't do any such operation on the panel, which interferes with the movement of trains.
2. When the point zone track circuit is showing occupied indication, do not try to operate the point with EWN button without ascertaining that track circuit portion is free from vehicles/obstruction.
3. For testing of points, do not operate the points without getting consent from outdoor staff on VHF set, mobile phone or group telephone.
4. Don't break any seal without getting a written memo and entry being made in the concerned register.
5. Don't do any maintenance work in the Relay Room during the train movement in the station yard.

VI Integrated Power Supply (IPS)

Do's

1. Ensure correct DC polarity to Inverter input
2. Always, load only up to rated current.

Don'ts

1. Do not take out plugs of modules when working/IPS is on load.
2. Do not connect battery when modules are on.
3. Do not disturb battery under voltage cut-off setting
4. Do not remove input/output connectors when unit is on

5. Do not switch-off any of the modules of a group of DC-DC converters
6. Do not set unequal voltages of the DC-DC converters of the same group.
7. Do not Run AVR at no load.
8. Do not short output of transformer.

VII. Data Logger

Do's

1. 50% Ensure Data logger Time is synchronized to GPS clock. The Relay to Data logger, Data logger to NMDL software in S&T control and Data logger Simulation are validated.
2. Non operated relays in Data Logger simulation should be checked periodically.
3. Data logger reports to be analyzed for failures and both for predictive and preventive measures/maintenance.
4. Ensure that alert Messages are coming for closing/ opening of relay room.
5. Install the CMU in a Dust free and cool environment.
6. Please ensure that the system is running, with the NMDL software, round the Clock.
7. Ensure from time to time that the system has enough free space in the 'C' Drive.
8. Regularly, at least once in 3 months, take a copy of the previous 3 Months database in a CD.

Don'ts

1. Do not open Floppy's/CDs in the CMU.
2. Do not use the CMU for other software like Signal failures entry/Signal incidence software/AutoCAD etc. as the system setting required for NMDL Modules may be disturbed.
3. Do not install Games/Screensavers/wallpapers etc.
4. Do not Shutdown the system without proper closing of NMDL and other Modules.

VIII. Axle Counter

Do's

1. The Indoor equipment of the axle counting system shall be protected from unauthorized access.
2. Installation, Calibration and functional testing shall only be performed with the tools prescribed and by qualified staff.

Don'ts:

1. Train movements must not be performed over the assigned wheel detection equipment while calibrating Axle Counter.
2. Do not use the power supply provided to the axle counter for any other application.
3. Do not open the electronic junction box in the rainy season and should be covered to protect from moisture/rain.

IX. Universal Fail Safe Block Instrument (USFBI)

Do's

1. Connectors for PCBs are to be plugged in or out after switching off the power supply.
2. Replacement of components or modules is to be done only with spares supplied/prescribed by the manufacturer.
3. Avoid force while plugging in/out a PCB.
4. Relay Testing Should not be performed Involving Forced pick-up' or drop while the equipment is ON.

Don'ts:

1. No attempt is to be made to operate the equipment when Battery Voltage ranging below 19.2 V and above 28.8 V DC.
2. Do not RESET in case of "Link Failure" or Supply failure.
3. Do not do arbitrary grounding with any Common terminal inside.
4. Do not do Relay Testing involving forced pick-up or drop while the Equipment is "ON",
5. Standard restrictions against mishandling and opening of block instruments are applicable to UFSBI also.

X. Electrical Point Machine

Do's

1. All Points shall be tested and observe for correct settings & indications.
2. Do point test for Normal maintenance from the operating panel/VDU by the SMs only. 3. Test points from the Panel/VDU only when NO train over that point.
4. Attend panel LED indication failures immediately when no movement of trains or when yard is Free. A proper disconnection/reconnection to be taken.

5. Point machine shall always be kept in locked condition unless otherwise essential.
6. Disconnect both incoming and outgoing supply whenever point is disconnected.
7. Operate point manually using specific crank handle.

Don'ts

1. Don't extract crank handle without disconnection when required.
2. Don't adjust lock and detection slides without proper disconnection notice.
3. Do not short any electrical contacts manually under any circumstances.
4. Do not disturb the pre-setting of the detection contacts at site.

XI. DC Track circuits

Do's

1. Ensure proper connection between power feed and track, relay and track and also between adjoining rails, through jumpers and rail bonds.
2. Adjustment of TR Voltage with prior disconnection notice only.
3. Replacement of Glued joints with prior disconnection notice
4. Do Track shunt testing only after verifying NO signals are cleared.
5. Do replacement/periodical over hauling of TR relay only with prior disconnection only.
6. Do Replacement of Transverse bonds with prior disconnection only.
7. Ensure that the track relays disconnected at both Feed end and Relay end while doing any work.
8. During wet weather proper voltages on rail shall be ensured.
9. Do ensure that the track circuit can be properly shunted at different points in the track.
10. Disconnect Track circuits when particular track is occupied more than 24 Hrs. continuously.
11. Disconnect Track circuit when noticed any abnormality like rail fracture, glued joint defect etc.

Don'ts:

1. Don't over energize track relays.
2. Don't adjust of TR voltage level without proper dis-connection notice
3. Don't replace TR without prior disconnection notice.

4. Don't keep the track circuit in working condition only on battery charger.
5. Don't use common feed/ track feed battery charger for different Track circuits.

X. Color Light Signals

Do's

1. Testing of signals/Routing signals with OR without disconnection shall be done from the panel/VDU only when no Train approaching that signal.
2. Maintain all aspects of signals indication are lit properly on panel/VDU.
3. Disconnection of panel/VDU operation shall be given immediately whenever wrong signal indication noticed.
4. Disconnect signals when defective.

Don'ts:

1. Don't leave loose wires on input terminals of LED Signal lighting unit. This may cause false operation.
2. Don't try to test signals/Routing signals from location box in any occasion without disconnection.
3. Don't forget to keep signal to restrictive aspect when caution imposed in station section.
4. Don't try to interchange connections of LED Signal lighting units.
5. Don't try to give direct supply to the LED Signal lighting units without proper installation.
6. Do not try to open the unit as it is sealed for environmental protection.

XI. VRLA Batteries

Do's

1. Avoid sources of heat or cooling directed on to the batteries.
2. Check that the physical condition of batteries is good i.e. there are no cracks, bulges and heating marks on it.
3. The battery room and location boxes should be kept well ventilated and free from water, oil and dirt.
4. Since the voltage to be measured requires an accuracy of 0.05V. Do not exceed the charging voltage above 2.30V per cell maximum per cell.

Don'ts

1. Do not attempt to replace the battery without disconnection.
2. Do not boost charge the batteries for more than 12 hours.

Do's & Don'ts for Loco Pilots

Do's

1. Do brake power test before leaving from originating station.
2. Road learning is to be taken thoroughly
3. Keep valid competency certificate with you while on duty.
4. At your crew lobby see and read speed restriction's board both temporary and permanent.
5. Test the walkie talkie set at your crew lobby.
6. Ensure correct authority to proceed before start the train.

Don'ts

1. Don't take any alcoholic drink when on duty and within 8 hours before coming to duty.
2. Don't sign in assurance register unless you understood properly.
3. Don't perform duty in overdue for PME and Refresher course.
4. Do not start the train without obtaining caution order(T/409)
5. Don't gossip over walkie talkie which may disturb other working staff.
6. Do not start without continuity test.

Do's & Don'ts for Train Managers

Do's

1. Before starting a train from terminal station or crew changing station set your watch by station clock and compared with driver.
2. Keep rule books with you pasting up to date correction slips.
3. Keep sharp watch while passing caution zone and at the end of caution limit exchange alright signal with driver
4. Exchange alright signal with station staff and Driver
5. In case of an accident on double line/quadruple line ensure protection of adjacent line immediately if the same is obstructed.
6. Ensure hose pipes of the loco and formation are coupled together and cutout cocks are opened.
7. During shunting proper cotter bolting of facing point must be Done

Don'ts

1. Do not start your train without continuity test
2. Don't start your train without ensuring brake van equipments & your personal equipments
3. Don't allow the train without requisite air pressure shown in the gauge
4. Do not fail to inform station master and exhibit red signal towards cabin / station to prevent any movement while standing your train without clearing the fouling mark
5. Don't give signal for starting your train unless you permitted by SM to start
6. Do not use walkie talkie set as a substitute for hand signals. And do not leave any wagon in secured condition after shunting
7. Don't fail to alert the driver in the event of non observance of speed restriction rigidly

Summer and Monsoon preparedness for locomotives

Electric locomotives

1.0 Instructions already exist in ACTM para No. 30514 for taking precautions before onset of summer and monsoon seasons. Railways are advised to ensure seasonal precautions instructed vide ACTM para No. 30514.

2.0 In addition to the instructions contained in ACTM, some of the other important measures to be taken for maintenance of electric and diesel locos are as under:

2.1 Ensure completion of rainwater protection and pre-monsoon precaution works well before May 31, 2024.

2.2 Check for any oil leakage from transformer, Tap Changer (GR), MPH circuit, traction converter, oil pump and other accessories & ensure appropriate oil levels in all these equipment between minimum and maximum levels.

2.3 Ensure topping up of water in batteries.

2.4 Prescribed type and number of fire extinguishers should be provided on each locomotive and loco crew are trained to operate these when required.

3.0 Besides above, following instructions are also to be followed by homing sheds & Locopilots working on electric locos to curb the loco failures on line:

3.1 Fire prevention measures for 3 phase locos vide letter No.EL/3.1.35/2 (Elect), Dated 29.01.2013 should be implemented along with modification to provide mechanical locking arrangement in primary over current relay of 3-phase locomotives as per modification sheet No.RDS0/2013/EL/MS/0420 Rev", dated 23.01.13, be ensured. Compliance of RB letter No. 2008/Elect (TRS)I113/5/Pt. dated 08.12.2016 on fire prevention shall be ensured.

3.2 Ensure temperatures strips of range 40-70°C and 60-100°C pasted on DE side bearing in compliance to the comprehensive maintenance instructions advised by RDSO vide SMI No. RDSO/2013/EL/SMI/0278 dated 24.12.2013 for fitment of traction motor (6FRA6068) Drive End bearings NU2236 used in 3-phase locos during overhauling .

3.3 Air delivery measurement in 3-phase locos to ascertain proper cooling and pressurization of machine room advised by RDSO vide SMI No. RDSO/2009/0255 (Rev."0") dated 06.05.2009, to avoid dust ingress and proper cooling of electronic cards as a schedule activity.

3.4 Filter cleaning as per RDSO SMI No. RDSO/2016/EL/SMI/0286(REV.'0'), Dated 09.06.2016 shall be carried out.

3.5 Improvement measures to maintain pressure in the machine room and make it dust free as per RDSO guideline circulated vide letter No. EL/3.1.35/10 dated 11.04.16.

3.6 Removal of dust from machine room by industrial vacuum cleaner and plugging leak holes by rubber grommet I gasket I RTV.

3.7 Provision of roof clamp shall be ensured.

3.8 Condition of air filters and OCU gasket to be ensured.

3.9 Application of conductive grease on knife switch contact of BUR.

3.10 Implementation of RDSO modification No. RDSO/2018/EL/MS/468 (Rev. "0") dated 06.02.18 for Hotel Load Converter.

3.11 Modification to avoid cab changing in case of failure of processor cards of VCU as per RDSO/CLW's guideline.

3.12 Implementation of RDSO's modification sheet no. RDSO/2018/EL/MS/0475 for switch OFF/ON of control electronics.

3.13 Regulated use of sander (PSA) instead of continuous use is recommended. Continuous use of sander is not only ineffective but could also lead to MR drop.

3.14 Any fault message in DDS should not be acknowledged without reading and follow up as suggested. Once acknowledged, the message gets lost.

3.15 Any such messages requiring train to stop, efforts should be made to clear the block section in coasting & then attention to the message be given.

3.16 If one auxiliary converter is isolated, then as per TSD, switching OFF & ON electronics is advised once for normalizing the working of auxiliary converter. Since the isolation of auxiliary converter reduces the ventilation level, it is prudent that, in summers, switching OFF & ON of electronics should be tried again later on during stops, to normalize the working of auxiliary converter.

3.17 Priority-I message have to be immediately acted upon & course of action is also available in DDS. P-II message need not be acted immediately except for battery voltage low /MCB 100 tripped. P-I message come with a red flashing of LSFI in addition to BPFA.

3.18 Timely attention to Priority-II battery messages so that loco does not shut down with PI message later on. Tripping of battery charger MCB 100 invariably leads to Priority-II battery messages. Switching ON MCB 100 has to be done with VCB in OFF condition.

3.19 In case Angle transmitter goes defective, immediately switch over to manual mode using switch152 in running condition.There is no need to stop.

3.20 Configuration switch 160 restricts loco speed to 15 kmph & can be corrected without switching electronics OFF/ON in much lesser time. However, the loco has to be stopped before operating switch 160.

3.21 Zonal Railways are also advised to follow the latest TSD of 3-Phase locos issued by RDSO and counsel all running staff in lobbies, training schools, on line etc. accordingly.

3.22 Review progress of latest Reliability Action Plan as issued by RDSO & also available at its website.

4.0 In addition to above, in order to prevent fire hazards in locomotives, thorough blow outs, cleaning of underslung power equipment, removal of spillages from engine areas and functioning of fire safety equipments may also be ensured.

Diesel Locomotive

5.0 As the summer season is approaching, it is advised to ensure the following instructions to avoid fire incidences on diesel locomotives:

5.1 No leakage of Lube oil and Fuel oil.

5.2 Fuel cross over pipe is properly secured and is not rubbing with Engine block.

5.3 Engine room must be maintained oil free and no foreign material like cotton waste, etc are lying there.

5.4 The electrical cables should be adequately protected, covered from leaking diesel oil, which could spill on these cables.

5.5 Oil spillage from diesel engine in to the Alternator/Generator room to be prevented.

5.6. Leakage of oil through partition plate and leakage of oil from crank case exhauster pipe shall be checked.

5.7 IR values of power and control cables shall be checked.

5.8 To avoid sparks, wiring at junctions/interfaces should be tightened properly.

5.9 Tightness of terminals and sealing at terminal box to be checked and dust particles shall be cleaned periodically.

5.10 Carbon brush condition, brush spring pressure, freeness of carbon brush, arcing horn gap and commutator surface cleanliness shall be checked periodically.

5.11 Milli volt drop shall be checked across the WSR with traction motors in serious and parallel conditions.

5.12 To prevent oil entry in to the traction alternator connection box, adequate sealing arrangement should be maintained.

5.13 Power and control cables shall be converted to e-beam irradiated type during POH/Rebuilding as per the extant instructions.

5.14 It must be ensured that thermal insulation is provided on exhaust manifold and compressor intercooler pipes.

6.0 A drive may be launched to conduct ambush checks to sensitize field maintenance & running staff & keep records of the progress made on cyclic checks. Feedback may be communicated to Board on completion of the same.

The above points are not exhaustive and any other instruction, issued time to time, may be incorporated in the drive to ensure safety and reliability of electric and diesel locomotives.

JOINT PROCEDURE ORDER FOR UNLOADING OF BALLAST DMT.

Sub.: Joint Engineering, Mechanical & Traffic Procedure Order for loading/ unloading & transportation of Ballast DMTs.

Scope & Applicability: All types of ballast DMTs consisting of hopper wagons (BOBYN type) having side doors controlled mechanically.

Objective: There have been few cases of derailment of hopper wagons due to uneven loading of ballast, caused by one of the side doors of BOBYN not opened partially or fully, during the operation of unloading and also due to jamming of ballast unloaded in excess. Objective of this JPO is to avoid the recurrence of such incidents by streamlining the procedure of running the DMT for unloading and specifying the duties of various officials and safeguards during the operation.

1. Duties of Guard, Loco Pilot & SSE/JE (P. Way):

(i) Ballast DMT must never work without GUARD. The Loco Pilot & Guard shall observe all the instructions contained in G&SR for working of material/ ballast train (Annexure-1) when ballast train performs unloading works.

(ii) Respective SSE/JE (P. Way) supervising the unloading, shall be responsible for efficient functioning of the train during the unloading of the ballast train.

(iii) 2 Nos. of Walkie-talkie in working order of Operating frequency shall be got issued by guard from the lobby, for both the SSE/JE (P. Way) working on ballast DMT, for clear communication.

(iv) The Sectional P. Way Engineer (not below the rank of JE) shall be responsible for:

(a) Supervising safe unloading of ballast.

(b) Placement of unloaded ballast in safe position, so that ballastdoes not infringe the Standard Schedule of Dimensions (IRSOD) or cause jamming of wheels.

(v) The Loco Pilot of ballast train shall be vigilant and follow the instructions of P. Way Engineer available in Loco Cab during unloading activity.

(vi) Loco Pilot shall be on constant look out for signals from sectional P. Way Engineer/ Guard from rear of the train or otherwise for operation of train during the unloading of ballast

(vii) Running of DMT on invalid BPC should be governed by JPO/ER No.TS.550/11/ JPO/Vol. I dated 01.09.2023 on Freight Train Examination.

(viii) Brake van must be attached to the ballast DMT and the guard must work from his Brake van, whenever the DMT is getting unloaded in section under the traffic block.

2. Examination of rake before sending to depot for loading:

Responsibility of maintaining the rake lies with the Mechanical Department.

Concerned JE/SSE(C&W) should arrange to ensure the following before issuing BPC of the Ballast DMT.

(i) Unloading gears of Ballast DMT hoppers are to be maintained properly to ensure smooth & quick unloading of ballast during the traffic block. All the unloading gears should be lubricated before issuing BPC to ensure smooth opening and closing of doors of hopper wagons at the time of unloading.

(ii) Unloading gears of wagons must be checked at the time of TXR examination before giving fitness to DMT rake for loading of ballast. In case, any assistance is required in this regard, matter should be brought timely to the notice of HQ

(iii) Necessary fittings for maintaining rakes shall be stocked by the concerned JE/SSE (C&W).

(iv) 100% brake power should be ensured while issuing BPC for 30 days.

(v) The engineering representative i.e. SSE/JE (P. Way) shall take over the rake at TXR depot. He will examine that all unloading gears are in working order and no problem shall be faced subsequently at the loading point. He shall then be responsible for hopper fittings, till the rake remains in his charge. When the rake is sent for TXR examination after expiry of BPC, list of missing fittings will be prepared by SSE/JE (P. Way).

(vi) After every unloading of Ballast DMT, wagons whose doors and unloading gears could not be opened, should be clearly brought on record by the SSE/JE (P. Way) unloading the ballast. In case none is reported, the same certificate should be sent to Engg. Control for proper upkeep and finalising maintenance requirement of ballast DMT wagons.

3. Pre-loading of the ballast at Depot

(i) SSE (P. Way) In-charge of Ballast Depot must ensure that oiling and greasing of all door opening assembly of BOBYN rakes at Ballast Depot has been completed before loading in every trip and must keep proper record in the form of a Log Book. The sectional ADEN and Sr. DEN during their inspection at Ballast Depot should see the log book and ensure that the same is properly maintained.

(ii) Wagons with defective doors, should not be permitted for loading and prominent marking "Not to be loaded" shall be done. These wagons are to be detached and kept at the siding for the examination of TXR. These wagons shall be repaired during the next TXR examination and made fit for loading.

(iii) SSE (P. Way) In-charge or Engg. Control of the division maintaining the Ballast Depot shall maintain a log book in the following proforma in which deficiencies observed during checking of the rake should be entered and deficiencies of DMT wagons shall be communicated to C&W control.

Details of checking	Deficiencies observed			BOBYN No. in which oiling and Greasing has been done and door handles have free movement	Any other remark of the inspecting official	Signature of the inspecting official
	BOBYN Nos. ion which Doors are badly jammed and could not be opened	BOBYN Nos. in which gap observed even in closed position of doors	BOBYN Nos. In which door opening assembly is very tight and is not working smoothly and doors opened with a lot of extra effort			
1	2	3	4	5	6	7

(iv) Before the entry into the block section, opening of doors should be checked and if all doors of any BOBYN are not opening properly, unloading should not be done from that wagon and C&W staff should be booked on the very next day to attend the same in the Ballast Depot.

(v) A list of all deficiencies should be handed over to concerned JE/SSE(C&W)/ C&W Control when rake goes for issuing BPC.

4. Action to be taken prior to departure of Ballast DMT from depot:

(i) Normally, unloading of ballast DMT should not be done from sunset to sunrise. However, in case of unloading of ballast DMT in the night such as in Suburban section/ emergency adequate lighting and safety precaution be ensured.

(ii) The ballast train should be accompanied by a qualified engineering Official-in- charge (SSE/JE) with Valid Competency Certificate. He should be well conversant with the rules & regulations, pertaining to the working of Ballast Train.

(iii) The Official-in-charge should have the details of exact locations where the ballast is required to be unloaded, duly approved by SSE/P.Way or ADEN. The same List for unloading shall be provided to Driver and Guard, in advance before starting the work.

(iv) TP wise planning for unloading of ballast hoppers shall be done by SSE/JE in advance and clear signal should be shown to drivers to stop at exact required locations.

(v) Two (02) SSE/JEs should always be available during unloading of Ballast DMT.

(vi) One SSE/JE should remain at site after completion of unloading and clear the heaps of ballast from the track

(vii) JE/SSE (P Way) shall ensure that minimum 02 labourers for every 04 hoppers are available during the block for unloading the ballast DMT. Ballast DMT rake should normally have not less than 20 Hoppers for a block requirement of 90 minutes. Adequate labour shall be kept for a shorter rake as per actual requirement

(viii) JE/SSE (P. Way) shall also ensure that Ballast DMT must be accompanied by minimum 02 Blacksmiths (one for each side of DMT) for handling minor issues of jammed gears of door flaps. This will be irrespective of the length of the rake.

(ix) In addition to above adequate no. of labour must be deployed at each of the obligatory locations like LC Gates. Bridges & Points & Crossings so as to work proactively for clearing unsafe conditions, developed during unloading of ballast from DMT.

(x) Ballast train should not be taken into section for unloading, if any hopper is having uneven load. The unevenly loaded wagon should be adjusted well before moving into the section.

5. Action to be taken during unloading of Ballast DMT by SE/JE P. Way) Supervisor unloading:

(i) Protection of the ballast train as per GR 15.09 and IRPWM Para 806 must be ensured.

(ii) Direct unloading of ballast on Platform loop lines with complete DMT movement is not to be resorted to Ballast DMT may be stabled at nearby goods line and subsequently unloading may be done by shunting 5-10 wagons only under proper shunting order. The opening of gates of hoppers shall be partial and so regulated that the heaping up of ballast does not take place on platform side.

(iii) Ballast DMT should not be moved at speeds higher than 10 Kmph while unloading the ballast.

(iv) During unloading, the DMT shall move only in one direction and no pushing back should be permitted under any circumstances.

(v) While ballast train is working it should be ensured that all the doors are opened slowly to avoid sudden discharge and the ballast is spread uniformly. On curves, inner side door should be regulated so that the required quantity of unloading is ensured on both the sides.

(vi) While unloading ballast from hoppers, care should be taken in Point & Crossing zones, so that check rails and gap between tongue rail and stock rail are clear. Sufficient extra labour to be deployed and S&T staff to be got deployed for testing of point after unloading in Switch Zone.

(vii) DMT should not be stopped while unloading is in process. If the ballast train has stopped during unloading, it should be ensured that the ballast is clear off the top table of rail and flange way before movement of the train.

(viii) Bond wire should be kept clear of ballast. This should not be embedded in ballast. OHE Mast should be clear off ballast so that it can be checked whether bonding of Mast with rail is intact or not.

(ix) For any reason, if one side chute is not opened, opposite chute should also be closed to avoid uneven unloading to the extent possible

(x) Due to poor visibility, at the time of unloading, it might become difficult to exchange signal between driver and guard/SSE/JE (P. Way). Walkie-talkie sets should be made available to the SSE/JE (P. Way) for safe working of DMTs.

(xi) Sufficient no. of trained P. Way staff should be available to exchange signals between Driver and Guard/ SSE-P. Way in areas of restricted visibility

(xii) After unloading of ballast DMT in section, first subsequent train shall be passed at 45 Kmph and after proper clearing and opening of ballast, normal sectional speed shall be restored.

6. Action after unloading of ballast DMT by SSE/JE (P. Way), supervising unloading:

(i) After unloading the ballast, it must be physically ensured that no uneven unloading of ballast exists in the hoppers. In case, uneven unloading in the hopper(s) is noticed and the same cannot be attended to in the block, the DMT must be taken to nearest station with speed restriction as considered necessary ensuring that speed is not more than 10 Kmph while negotiating curves and T/outs. After clearing the block, the hoppers noticed with, uneven loading should be immediately attended for balancing to avoid unsafe movement.

(ii) SEJs should be cleared off stone ballast after unloading.

(iii) Ensure clearance of ballast properly after unloading to avoid jamming of signal rods, gears and lock bars. S&T staff to ensure that ballast is properly clear and ensure one round of testing of gears.

(iv) Ensure that unloaded ballast from train should be kept clear off the moving dimensions. If required suitable SR may be imposed, as per site requirement.

(v) SSE/JE (P. Way) and SSE/S&T or his nominated person will ensure before leaving the site that no stone is left inadvertently between the stock rail, tongue rail, Check rail and nose of crossings.

(vi) Ballast which has fallen between the running rail and check rail on curves or LCs should be cleared invariably before cancellation of block.

(vii) While giving the memo to ASM for clearing the block for unloading ballast, it must be ensured by SSE/JE (P. Way) supervising the work that there is no infringement to moving dimension and all signal installations in track, gears, check rails, SEJs etc. are clear of ballast.

(viii) Despite all precautions, it is likely that some ballast may hit the foot board of the train resulting in rising of dust etc. It is, therefore, recommended that a speed restriction of 45 Kmph be imposed for the first train which passes over the portion where the ballast had been unloaded. Caution order shall indicate besides the location where the ballast had been unloaded, the fact that the temporary engineering indicator boards are not displayed at site

(ix) JE/Mate with gang shall remain at site until next two trains have passed and move only after complete work of clearing has been done. Suitable speed restriction shall be imposed in case any clearance of ballast is still required which cannot be done on the same day.

7. Record of Work Done

In order to ensure complete unloading of ballast, the hopper doors must be in working order after unloading of ballast hoppers (BOBYN rakes). SSE/JE (P. Way) supervising unloading must also invariably record the unloading details in the following tabular form in a register.

Nos. of hoppers unloaded			
Fully emptied	Partly unloaded	Fully unloaded	Total

8. First Aid: The guard and JE/SSE (P. Way) shall ensure that First Aid boxes and all the safety equipment are available in good working condition.

Sd/-	Sd/-	Sd/-	Sd/-	Sd/-
CRSE/Frt.	CEE/OP	CMPE/D&DM	CFTM	CTE

Joint Procedural Order for Dealing of Container Rakes in CRT/ICD/ PFT/Private Sidings & KP Dock.

No. TS.430/30/CONT.-POL/VOL.I

The following Joint Procedural Order shall be followed while placing and clearing of container rakes into and out of sidings.

I. Securing of the rake before placement :

1. After shunting into siding, the Shunting staff shall ensure that the container rake is standing within fouling mark/signals of the concerned line on both ends.
2. The rake shall be secured as per the rules for securing of vehicles laid down vide SR 5.23 of ER G&SR.
3. The In-charge of the Shunting Staff shall ensure that the above instructions have been complied and sign in the 'Stabled Load Register at the station, duly filling all the required columns given in the Register, along with date and time.
4. In the absence of separate shunting staff, Train Manager of the train shall supervise the shunting and stabling of the rake and sign in the Stabled Load Register.
5. Stabled Load register is to be maintained by CYM/SM. GSS can 'keep' the register in his office if the office of CYM/SM is far away. If there is no Goods Supervisor/ Goods Clerk is posted, the Register shall be maintained by the siding in-charge designated by the siding authorities, under advice to the Station Master.
6. The Station Master/Goods Supervisor/Goods Clerk/the designated Siding in-Charge shall countersign against the signature of the Shunting-in-charge/ Train Manager in the respective column in the 'Stabled Load Register, along with date and time.

II. Precautions while Lifting-on and Lifting-off Containers :

1. Private operator supervisor at Goods Sheds/Sidings/Private Freight Terminals should monitor the Lifting-on (placing a container on the BLC wagon) and Lifting-off (lifting a container off the BLC wagon) Containers and all possible care should be taken to prevent damage to wagons by rough and careless handling. They will be held responsible for any damages.
2. Containers must be evenly loaded so that the load is equally distributed on all springs. No overloading beyond carrying capacity is to be allowed.
3. Before 'Lifting-on' containers, siding authorities should check the condition of Automatic Twist Locks. In case of any defect/deficiency, same should be brought to the notice of the Railway staff for corrective action.

4 Containers should be lowered equally, parallel to locks and positioned without any jerk or sudden drop by the Reach stacker, duly ensuring that twist locks are properly locked.

5. The Reach Stacker deployed should be in good working condition.
6. Crane Operator should work very carefully and should blow hon to alert if extra

load is exerted while unloading of containers. Road mobile cranes preferably should have the provision of load cell and should be used for unloading.

7. One supervisor should be exclusively deputed by the siding authorities for ensuring proper locking/unlocking of ATLs. He will also guide the crane driver suitably. The supervisor shall also ensure that wagon is not lifted along with the container. In case any wagon is lined, the supervisor shall alert the crane operator in this regard and ensure that the wagon's all wheels are again placed properly on the rails and will inform the same to the Siding authorities and Railway Authorities for further action.
8. While Containers are being lifted, it should be ensured that lifting is done gently, evenly and vertically and see that twist locks are unlocked and under frame is not lifted while lifting the container,
9. Crane operator and site supervisor should check and ensure that wagon is properly seated on bogle, wheels are not mounted on rails and wagon/ bogie/ wheel is not derailed while unloading/loading the containers.
10. Before releasing the unloaded/loaded rakes, the Yard Supervisor of CONCOR/ PCO/CTO shall ensure that all the wagons are properly seated on bogies, wheels are not mounted on rails and wagon/bogie/wheels are not derailed while unloading/loading the containers and all the containers loaded are positioned on the wagons properly and locked.
11. Committee of Divisional Officers of Mechanical, Electrical, Operating & Commercial departments should jointly inspect container sidings at regular intervals for ensuring availability and working condition of suitable machinery, facilities and proper Lift-on and Lift-off practices by the siding authorities.

III. Precautions to be taken before releasing the rake :

1. On duty Commercial Staff/SMR on duty at Lift-on-Lift-off operated terminals of containers at Goods-sheds/sidings/Private Freight Terminals (PFTs) should issue Release Memo mentioning the loading and unloading particulars as per the extant guidelines and after obtaining Certificate/Memo/Letter from the container Operator, duly indicating the following:

(a) Checked the rake and found all the wheels of wagons are intact on the rails;

(b) There are no abnormalities with regard to twist locks.

(c) The containers have been loaded evenly on wagons.

(d) All the ATLs are properly engaged and locked with containers on loaded container wagons.

(e) In case of 20 ft containers, the central ATLs should also be properly engaged.

(f) All containers to have valid CSC plates affixed and are not damaged/ defaced. (g) Wagons are not overloaded, considering the gross weight of the containers on the wagons.

(g) Commercial staff should ensure that copies of Release Memo and Certificate/ Memo/Letter of the Container Operator are handed-over to the on duty Station Master.

IV. Removal of rake from the siding :

1. All rakes examined on CC pattern should be subjected to safe to run examination by TXR (at TXR point) or TMLP check by Train Manager & Loco pilots (at other than TXR points) after every loading/un-loading. Such safe to run examination should be followed by endorsement on original BPC. In such safe to run examination, brake power, hanging parts and other defects which can be noticed visually on wagon loaded with containers, should be checked and given proper attention.

   During Safe to Run Examination, attention also to be paid to check the wagons for all wheels are on rail and has no abnormality

2. Container rakes detained for more than 24 hours at a TXR point should be subjected to safe to run examination and endorsement on BPC should be made by TXR that rake is safe to run for the remaining validity period of BPC. At non TXR point, TMLP check should be conducted.

3. The rake shall be drawn forward slowly while backing/bringing onto station's running line. The Train Manager/Shunting staff shall travel by the brake van and see that the train is moving safely. One of the Shunting staff shall stay at the end of the line where from the rake is being drawn and be watchful for any unusual and be ready to alert the Loco Pilot to stop the train. The Loco Pilot too shall be in an alertness to stop the train immediately upon Train Manager's/Shunting Staffs warning.

V. General :

1. Siding Authorities shall provide pathways and lighting on both sides of the line(s), where from rakes will be cleared, for movement of Shunting staff/ Train Manager/Loco Pilot while checking the rakes.

2. The Station Superintendents of Serving stations, Section Tls and SSE/C&W shall inspect the sidings in every two months and counsel the Siding staff, Shunting staff and Train Managers, who are involved in the activities detailed above. Acknowledgements shall be obtained from the staff who have been counselled.

3. This JPO does not supersede any Agreements/Circulars, Manuals, etc., in this regard.

Sd/-	Sd/-	Sd/-	Sd/-
CRSE/Frt.	CELE	CCM/FM	CFTM

Joint Procedure Order - Disconnection/Reconnection Protocols for S&T Gears.

(Authority: Railway Board's letter No. 2021/Sig/21/Safety performance dtd. 10.06.2023 &2023/TT-N/9/2, dated 16.06.2023)

The following instructions should be scrupulously followed when S&T gears are disconnected/reconnected under provisions of IRSEM and G&SR for maintenance/ repairs or attending signal failures or otherwise as under:

1. Locking arrangement of relay rooms-

1.1 Relay room should be provided with double locks and door opening shall be monitored through data logger as per Para 21.2.2 of IRSEM. This includes provision of double locks at all relay rooms, relay huts, goomties & cabins provided as an extension of station relay room for housing signaling gears in station yard.

1.2 Double locking arrangement should be provided at all level crossing gate relay huts/goomties within station limit housing S&T equipments of LC gates and point/track circuit signals.

1.3 Gate goomty/cabin housing S&T equipments in station yard should treated as relay hut.

1.4 Till double locking arrangement is provided, key of single lock of relay huts/ goomties/cabins should be with Station Master (SM). The relevant entries regarding issue and deposit of the key should be maintained by SM in the same manner as being done for station relay room. The proforma for handing over/taking back of the key by the SM on duty shall have a column specifying that the location for which key had been taken by maintenance staff has been properly closed and locked, by the maintenance staff who is returning the key.

1.5 Locks of genuine repute/Digital locks should be provided as necessary.

2. Disconnection/reconnection of signaling equipments:

2.1 Proper disconnection/reconnection protocols should be followed for signal maintenance, repairs/alteration works as per provisions contained in IRSEM and G&SR by authorized personnel w/ valid competency certificate.

2.2 When disconnection is permitted by SM for undertaking maintenance and repairs, it should be on proper disconnection/reconnection notice form (je. S&T DN) as prescribed in Annexure: 3-A 10 of Para 3.8.4(b) of IRSEM.

2.3 After completion of work prior to acceptance of reconnection by SM, the correspondence test of the gear disconnected should be done. Thereafter, the first train to pass on Main Line should be dealt as under.

Sd/- Sd/-

PCOM PCSTE

SPAD PREVENTION

I. Precautions to prevent SPAD (Signal Passing at Danger)

1. Take proper rest before coming for duty.
2. Do not join duty with disturbed mind.
3. Be conversant with rules, procedures and system of working.
4. Be thorough with the topography of the section with proper LP.
5. Be vigilant about the signals in the falling gradient.
6. While signing on ensure no new signals are commissioned after last trip.
7. Before starting train ensure valid BPC / brake power is available.
8. Do not allow un-authorized persons in loco.
9. Conduct continuity test before starting.
10. Conduct Brake Feel test just after starting.
11. Once train achieves the speed of 40-50 kmph, conduct 'Brake Power' test at first opportunity and regulate speed accordingly.
12. Keep mobile telephones of LP & ALP in switched off condition.
13. In case of distress, speak only after stopping the train.
14. Be cautious while approaching warning board.
15. Do not deviate your attention while approaching Signals / CD (caution drive) spots.Remain cool but dynamic according to the speed of train.
16. Call out signal aspects loudly & clearly.
17. During poor visibility due to fog, heavy rain etc. reduce the speed suitably.
18. Run at the prescribed speed in safe condition.
19. Judge braking distance and behaviour of the formation.
20. If distant signal has failed for a long period, do not assume and take it granted that home signal is clear in favour of your train. Be confirmed about aspect of the signal and observe it till passing.
21. Don't allow the supervisors to talk unnecessarily during the train operation while footplating.
22. Avoid discussions and arguments with foot plating officials while on run.
23. Be extra vigilant and cautious during failures and abnormal working.
24. Do not leave Loco unmanned.
25. Do not Trouble shoot while approaching Signals / CD spots. Attend loco failure after stopping the train.
26. While approaching danger signal repeatedly call out signal aspect till the train comes to dead stop.
27. Control the train in advance where visibility is less& impaired.

28. Never presume that, signal may be in favour.
29. Never hesitate to apply emergency to avoid SPAD. Never discourage / scold ALP for applying emergency brake. Sometimes direct ALP to apply emergency to test his reflex and confidence.
30. Before moving light engine every time check loco brake power.
31. Never obey signal aspect conveyed only by Walkie-Talkie.
32. While observing signals on multiple lines, keep train under control till it is ensured the signal is clear for you.
33. Do brake feel test while restarting a train after a long detention.
34. Ask relief when not able to concentrate on duty.
35. While working light engine with CCB system ensure KE valve back up working.
36. Apply A9 to emergency whenever loco is disabled & do not release till loco is ready.
37. Request for extra LR when you are not conversant with section.
38. Request for experienced ALP for first few trips in each section.
39. Do not do shunting from the rear cab to SPAD during shunting.
40. Do not pack your line bag / box before train stops at destination or crew changing point.

II. Over confidence by crew leading to SPAD

1. Half hearted repetition of signal without hand gesture and without citing full name of the signal.
2. Guessing of signal aspect as green when signal has no light during day time.
3. Stopping of a train at foot of the signal with asingleapplication of brake.
4. Loco Trouble shooting on running train thinking that small troublescan be attended on run safely.
5. Assuming that movement shall be on normal course and there shall be no deviation for reception at a station.
6. Assumption of LP about ALP that he shall not commit a mistake.
7. Sometimes interpreting a message from control, crew assumes that he would get through run.
8. Disregarding of CD & Partial understating of DCO or SCO or any tangible authority.
9. Late application of brake thinking that brake power of train is more than the required percentage of brake power.
10. Thinking that Mail Express trains shall be dispatched first by seeing the aspect of advance starter.

11. Caution Order / any instruction through walkie-talkie or mobile phone is Neither clearly understood & nor confirmed through other means.
12. Wrong interpretation of signal aspect.
13. Not doing brake feel test & brake power test at first opportunity.
14. Not reading authority correctly during abnormal working.
15. Absence of CD boards being understood as withdrawal of CD.
16. Lack of knowledge of recent installation of new signals or presence of right hand signals.
17. Improper road learning & knowledge of topography of section & operation of different group of locomotives.

III. Points for Crew Counselling at crew lobby

Following points should be discussed during counseling the LP & ALP at lobby and seminar.

1. Take proper rest at HQ / Running Room before accepting TO and be prepared to work the train physically & mentally.
2. Both LP & ALP should be conversant with the section with valid LR.
3. Reach the booking point 30 minutes before Sign ON in full uniform and acknowledge the new circulars, any safety message / orders in hard copy / CMS unit, following which do breath analyser test & Sign ON.
4. Take proper Caution Order for your section from lobby / station & switch off the CUG and other telephone sets. Match the Walkie-talkie with Guard. ALP shall take the FSD (Fog Safe Device) after testing that it is fed with upto date data for his section.
5. Refresh themselves rules on protection each time.
6. Crew should have the standard equipment, valid safety items & competency certificate.
7. Both crew shall leave lobby together to the ordered train after taking necessary papers and equipment.
8. Loco should be checked seriously while taking charge from relieved crew – See the log book, ensure all oil level, machine room, under gearing, Coupling, sanders, wiper ,Head light , Flasher lights ,horn and all pressure gauges.
9. Check the formation against any abnormality. Verify the BPC. Conduct continuity of pressure.
10. If BPC is invalid, conduct GDR as per procedure to check brake power and to assess that the train is safe to run.
11. While starting check proper authority (signal/ tangible authority) & start with

permission of Guard. Before moving forward back the train for two meters to see that coupling is intact and locked. Before backing, check if any derailing switch there at the trailing end of the train or not. If it is there ask SM to close the same.

12. Conduct Brake Feel Test for braking assessment as per norms-SR 4.31.04 :-
    i) Immediately after starting the train carry out Brake Feel Test preferably at a speed of 20-25 kmph.
    ii) Once train achieves the speed of 40-50 kmph conduct 2nd Brake Feel Test before proceeding further.
13. Have sharp look out of the section while train is running. Call out the aspect of signals name of signal and station along with gesture loudly. Same must be acknowledge by LP /ALP with full description and gesticulation.
14. Look back at every opportunity and at the curves to know the behaviour of train formation.
15. ALP to get down at longer halts to check coupling and other under gears.
16. Exchange signal with Gateman, Station Master / TP while in run. Signal should be exchanged till the other man is visible.
17. Keep the train under control according to the section & signal aspect.
18. Follow the Caution order minutely & repeat with Guard.
19. Negotiate the gradient with proper powering and attacking speed.
20. Use RB/ dynamic brake to keep the train brake-binding free.
21. Any abnormality like jerk/ bump experienced in section must be informed to SM before clearing the FM.
22. All memos/ forms received from SM to be read carefully and clarification be sought if required.
23. After stabling a train, sign in stabling load register at station.
24. ALP should always assist Loco Pilot & remind the signal aspect frequently along with the track side indication boards. Both should not assume the aspect of signal but should confirm the aspects & situation. To keep alertness both should repeat all the indications with loud voice and keep their mind cool but very alert. No SPAD& no untoward occurrences.
25. On running train eye, ear, nose & brain should be in most active mode.
26. ALP must apply Emergency brake while train is in danger.
27. Do not leave the locomotive unmanned and do not allow unauthorised persons in cab.
28. While handing over the train to outgoing Crew, share the experience & behaviour of train to outgoing crew.
29. Do not forget to record the unusual occurrence at the time of Safe Sign OFF at lobby.

Provisions of Para 637(2) of IRPWM-2020 is reproduced below while deep screening by BCM to prevent any untoward incident

The deep screening by BCM machine is to be carried out as detailed in IRTMM. The work of deep screening shall be followed by Tamping and Stabilisation of Track with TTM (Tie Tamping Machine) and DTS (Dynamic Track Stabiliser) respectively.

The work is to be carried out in stages on various days after the start of the screening operations and the speed restriction recommended to be imposed are indicated in the schematic representation in Table – III. According to the schedule, normal sectional speed can be resumed on the 8th day.

TABLE – I

PROPOSED SCHEDULE FOR MANUAL DEEP SCREENING (MANUAL PACKING)

Day	Sequence of events	Speed in Kmph
1st	Deep Screening and initial packing	20
2nd	1st through packing	20
3rd	2nd through packing	20
4th to 9th	Picking up of slacks as required	45
10th	3rd through packing	45
11th to 19th	Picking up of slacks as required	75
Speed raised to normal sectional speed, only after one round of tamping by machine in design mode and stabilisation in controlled settlement mode		

TABLE – II

PROPOSED SCHEDULE FOR MANUAL DEEP SCREENING (MACHINE PACKING)

Day	Sequence of events	Speed in Kmph
1st	Deep Screening with initial packing	20
2nd	First Machine packing	20
3rd to 5th	Picking up of slacks as required	45
6th	Second Machine Packing	45
7th & 8th	Picking up of slacks as required	75
9th	Third Machine Packing	75
10th		Normal Sectional speed

TABLE— III

SCHEDULE OF SPEED RESTRICTION FOR DEEP SCREENING BY BCM FOLLOWED BY TAMPING AND STABILISATION BY DYNAMIC TRACK STABILIZER (DTS) MACHINE

Details of Work	Days of Work	Speed Restriction
Deep screening of track by BCM, ballast equalization followed by initial packing and initial stabilization by DTS in maximum settlement mode.	1st day	40 KMPH
First round of tamping followed by stabilization of track by DTS in maximum settlement mode.	2nd day (1st Tamping)	40 KMPH
Ballasting for recoupment of ballast deficiency (if required), boxing of ballast section and tidying.	3rd day	40 KMPH
Boxing of ballast section and tidying.	4th day	40 KMPH
Second round of tamping followed by stabilization of track by DTS in maximum settlement mode.	5th day (2nd Tamping)	40 KMPH
Survey of track for design mode tamping as per annexure 2.16 of IRTMM, boxing of ballast section and tidying.	6th day	75 KMPH
Inspection of track, boxing of ballast section and tidying.	7th day	75 KMPH
Third round of tamping in design mode followed by two rounds of stabilization of track by DTS in controlled settlement mode.	8th day (3rd Tamping)	110 KMPH
Footplate/last vehicle inspection and speed raising.	10th day	130 KMPH
Footplate/last vehicle inspection and speed raising.	12th day	160 KMPH

NOTE: The period of the schedule shown above can be suitably increased to suit local conditions of the track consolidation. Full ballasting as per prescribed ballast profile to be ensured before the third round of tamping.

Precautions to be taken during deep screening of track by BCM followed by TTM and DTS machines –

(a) All precautions stipulated for LWR/CWR track (chapter 3) shall be strictly followed.

(b) The cutter bar shall be removed after completion of day's work, ballast filled and packed & stabilized by TTM/DTS.

(c) Ramp shall not be located in locations like level crossing, Girder Bridge, transition portion of curve etc. It shall be kept minimum two rail length away.

(d) In case of malfunctioning of TTM and/or DTS, deep screening shall be stopped and track which has not been tamped and stabilized shall be attended manually by ballast ramming and correction of track geometry to ensure safety of running trains. Speed restriction shall be imposed and relaxed in terms of Sub Para (1) (f) (i) or (ii) above, whichever is the case.

(e) In case of non-availability of traffic block on subsequent days of deep screening by BCM, speed restrictions shall be imposed and relaxed in terms of Sub Para (1) (f) (i) or (ii) above, whichever is the case.

(f) When BRM is not deployed, adequate trackmen shall be deputed to recoup ballast, particularly in shoulder and maintain ballast profile after machine working.

(g) Lifting of track shall be resorted to after ensuring adequate availability of ballast for maintaining ballast profile for planned lifting.

(h) Adequate arrangements for supply and training out of ballast prior to deep screening should be made. Special care shall be taken by deploying watchman on stretches overdue for rail renewal.

Intra Railway Safety Audit at EMU Carshed ,Howrah

Shunting Mela at SBG, Malda

SAFETY RULES

- You are responsible for your own safety and safety of others
- Assess the risk before you approach your work. All accidents are preventable.
- Always use equipment/tools/ machinery safely and properly
- Don't take shortcuts. If you are not trained for it, don't do it.
- Keep your work area clean and Clean up spills immediately
- Report any unsafe conditions immediately
- Never wear loose clothes or slippery footwear. Wear proper PPEs
- Report all injuries , however small they may be

Safety department ◆ Eastern Railway