



मध्य रेल CENTRAL RAILWAY

मंडल रेल प्रबंधक कार्यालय DRM OFFICE
संरक्षा विभाग SAFETY BRANCH
नागपुर NAGPUR

No. NGP/STF.101.Z/Inst/1-2024-25

Date : 5th April, 2024

All concerned, Nagpur Division

SAFETY INSTRUCTIONS : 01/2024-25

Sub: **Summer precautions for LWR/ CWR territory.**

Summer season is going to set in soon, therefore, necessary summer precautions are to be exercised in all LWR/CWR/SWR territory for which detailed instructions already exist. Relevant instructions/measures are being reiterated again, for ready reference of all concerned engineering officials as under.

Following important aspects should be borne in mind and all concerned should be suitably sensitized well before the summer to set in:

- 1) Know the reasons for Buckling in LWR/CWR to every engineering official.
- 2) Ensure availability of gas cutting equipment in all P.Way depot.
- 3) Know the stress free temperature of LWRs in the section.
- 4) Training out of adequate ballast in the section before deployment of Track Machines
Instructions/measures to be adopted in LWR/CWR sections.

A. PREVENTIVE MEASURES:

1. Distressing of LWR:- Distressing of LWR must be carried out based on the behavior of LWR (Para 347 of IRPWM 2020), including in stretches of LWR where renewals (including TFR, deep screening, lifting etc.) had been carried out or new LWRs have been laid.
2. P-way fittings:- Availability of full complement of effective fastenings shall be ensured.
3. Recoument and dressing/boxing of ballast:- Ensure availability of adequate ballast in track and proper ballast profile as per manual provisions to provide sufficient ballast resistance. Special care to be given for bridge approaches and locations like SEJs, breathing lengths, approaches of level crossings, points & crossings and their approaches, outer side of curves, and on trespassing locations.
4. Making up of cess:- Low cess should be made up to proper height before on set of summer as per standard profile to prevent rolling of ballast.
5. Mates, Keyman and P-way supervisors should be regularly educated and counseled in DO's and DON' Ts for working in LWR and SWR territory.

6. Precautions to be taken during Manual and machine maintenance as per lwr manual.
7. Maintenance of SEJ:- SEJs shall be checked once in a fortnight and packed and aligned if necessary. Oiling and greasing of tongue and stock rails of SEJ and tightening of fastenings shall also be done simultaneously.

B. PATROLLING OF TRACK DURING SUMMER:

1. **Hot Weather Patrolling: This shall be carried out as per para 1005 of IRPWM 2020.**

The JE/SSE/P-Way and the Gang mate shall be vigilant during summer, and on hot days Patrolling will be introduced, when the rail temperature rises above:

- (a) $td + 25^{\circ}C$. on PSC sleeper track with sleeper density 1540 nos per km and above.
- (b) $td + 20^{\circ}C$. on PSC sleeper track with sleeper density less than 1540 nos per km.
- 1.1 Patrolman shall patrol the track during the hottest part of the day, to look out for prominent kinks, incipient buckles or tendency towards buckling. He shall protect the track at such sites and report the same to nearest Station Master and JE/SSE/P-Way immediately. The patrolman shall preferably be provided with GPS tracking device, to monitor his movement so as to ensure effective patrolling. Detailed instructions for carrying out hot weather patrols, as under, shall be followed:
 - i) Gang mate/JE (P-way) shall ensure that hot weather patrolmen turn out on duty during the specified patrol period and properly carry out the patrolling duties. They shall be vigilant during hot weather and order patrolling, if the temperature is likely to go higher than $td+20^{\circ}C$ and report to their supervisors any unusual occurrences taking place on LWR/CWR in their beat.
 - ii) Patrolman should carry equipment as per Para 1005 of IRI)WM 2020. He shall walk over his beat slowly over one rail/on sleeper non gauge side of rail in one direction and on the rail/on sleeper non gauge face side of rail in the return direction. On double lines, he will repeat this procedure alternately on UP and DN tracks. He will be vigilant and look out for kinks in the rail especially during the hottest part of the days. When a kink is observed, he will take immediate steps to protect the affected portion by display of hand signals as per rules in force. After protecting the track, the patrolman will arrange to advise the Gang mate, JE/SSE/P-WAY of his apprehension of a buckle/actual buckle.
 - iii) Tendency towards buckling will usually manifest itself through kinks in track. Kinks may also arise from incorrect slewing or lifting operations. By tapping sleepers for hollowness, it may be possible to notice if there is any tendency towards buckling.
 - iv) During trolley inspections, AENs/DENs/Sr.DENs should carry out test checks about the knowledge of LWR of field staff.
 - v) P-way officials shall carry out foot plate inspection/other inspection in hottest hours so as to detect any tendency towards buckling and closely monitor the patrolling. Sr.DENs should issue a program of foot plate inspections to be done by Sr.DEN/DEN/ADEN/SSE/JE (P. Way), preferably between 12.00 to 16.00 hrs, so as to cover all sections, every day, by the nominated official.

2. **Inspection at supervisory and officer's level.**

- 2.1 Foot plate inspection by SSE/P-way, ADEN and DEN/Sr.DENs should be done during hottest part of day.
- 2.2 During inspections, sharp look shall be kept for kinks, incipient buckles and checks made on functioning of the patrolling.
- 2.3 They shall check that profile of the ballast section is maintained and kept as per standard profile prescribed in LWR manual, especially at pedestrian/cattle crossings, outside of curves, and on approaches of level crossings, points and crossings and bridges.
- 2.4 Cess should be made up wherever low or inadequate. As a temporary measure, released PSC sleepers may be kept along toe of ballast, in upside down position, to retain ballast wherever possible.
- 2.5 Sectional ADEN shall inspect all SEJs and movement at centre of LWR/CWR in hottest months and record his observation in the LWR/CWR register.

C). **GENERAL:**

1. Rail thermometers available with Gangs shall be checked for their correctness & all defective rail thermometers shall be replaced before on set of summer.
2. All SSEs/JEs, Mates and Keyman shall be explained procedures and precautions for maintenance of LWR track. It should be ensured that they possess valid competency certificates, as per Annexure 14/2 of IRPWM 2020
3. All gangs/trackmen who have no earlier exposure for maintenance of LWR/CWR/SWR due to various reasons such as newly recruited trackmen, should be educated/counseled for working in LWR/CWR territory.
4. The summer months are generally considered from 1st April to 15th July every year, where patrolling need to be done as per manual provision. However, Sr.DEN/DEN should make local adjustment in the period depending on the temperature in the area and adjust the dates accordingly.
5. Diagram for emergency protection by hot weather patrolman on single line and double line shall be
6. Followed in Para-812 of IRPWM.
7. Each case of incident of buckling shall be investigated by ADEN soon after its occurrence and a detailed report submitted to DEN/Sr. DEN.
8. Trackman/Patrolman should be frequently drilled for ensuring proper patrolling and protection of track in case of buckling or tendency of buckling. Further, safety meetings/seminars for counseling of staff shall be held with all concerned P. Way staff right up to Trackman.
9. It is necessary that all Engineering officers and supervisors are extra vigilant during summer season to ensure necessary measures for prevention and timely detection of buckling and to take timely action for prompt restoration.

Shukla
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Sr.DSO/Nagpur

C/- DRM : for kind information please.

C/- ADRM(Infra), ADRM(Tech) : for kind information please.