SOUTH CENTRAL RAILWAY

Safety.387/Fly Leaf/2/2012

Fly Leaf No. 02/2012

Attention.....

Engineering Officials

TRACK RELATED SUMMER PRECAUTIONS

(Ref: CTE's letter No. D.O. W.T-5/P/SP-WP/Vol. II dated 02.02.2012)

It is essential to take precautions in LWR territory. The sections are required to be inspected with a view to identify deficiencies in the form of missing fittings, ballast deficiency and consolidation, etc., de-stressing is needed in the stretches of LWR based on their behaviour.

It is also essential to look after the SWR track and free rail track to ensure proper gaps at joint gap survey, pulling back creep and adjusting of gap along with the lubrication of rail joints should be completed to avoid kinky alignment or buckling. Following are some of the points needing immediate attention;

1. **All shortage of ballast in LWR and newly created welded sections should be made good.**
2. Ensure proper profile of ballast on LWR. This may need balancing of ballast. Gangs to be directed to carry out shoulder compaction to improve the lateral stability especially outside of all curves.
3. **Dressing up of ballast to the required ballast profile (rail head boxing), especially at bridge approaches, LC approaches and places where pedestrian crossing of track takes place.**
4. De-stressing of LWRs based on behaviour of LWR stretches of LWR where renewals / deep screening had been carried out in recent past stretches where new LWRs have been laid.
5. **Locations wherever de-stressing was done at lower temperatures than as specified in LWR Manual should be de-stressed once again to the standard temperature.**
6. Recoupment of fittings to ensure zero missing fittings.
7. **Planning for Hot Weather Patrolling.**
8. All the Gangs including the Mates, Keymen and P.Way Supervisors should absolutely be clear regarding DO's and DON'Ts while working in LWR. The provisions of LWR Manual regarding maintenance, especially such as the items which are prohibited are explained in person by the concerned ADENs and acknowledgement obtained. Assurance certificates signed by Sr.DENs/DENs are to be submitted to Headquarters before 31.3.2012.
9. **Special watch has to be kept on the areas where deep screening works are on hand, strict adherence to the Manual provisions such as proper isolation, temporary de-stressing in case of LWR and correct sequence of following operation.**

10. All the Gangs should have rail thermometers in working condition and their accuracy should be checked by inspecting officials. Knowledge of the Gangs in rules should be tested particularly with regard to the limit of rail temperature in different colour painted (Green, Yellow, Red) for normal gang work and for introducing Hot Weather Patrolling.
11. **Stretches of 10 rail panel should have a temporary SR of 50 KMPH till converted into LWR and patrolling to be done during day. JE/SSE/P.Way should ensure gaps at all the rail joints in the morning in all such locations. These locations need to be intimated to Control Office so that the LP is on the lookout for Patrolman.**
12. Foot-plate inspection of complete section should be done during 1100 – 1600 hours as frequently as possible by JE/SSE-WAY/ADEN **till June.**
13. **LWR register should be strutinised immediately, if not already done and de-stressing of LWR/CWR undertaken wherever necessary based on inspection of SEJ as per schedule.**
14. SEJs should be oiled and greased once in a month as per Engineering Standing Order No.12.
15. **Sr.DEN/DEN should record his certification in LWR/CWR registers about satisfactory behaviour of LWRs/CWRs in his jurisdiction and an exception report to this effect should be submitted to the Headquarters Office before 31.3.2012.**

DOs	DON'Ts
General	
✓ Check the accuracy of the rail thermometer. ✓ Pay particular attention to stretches of track which are liable to creep. ✓ Provide extra shoulder ballast on the outside of all the curve locations. ✓ Check the joint gaps wherever necessary in case of single rail track and SWR track. Never allow more than 6 continuous jammed joints in case of single rail track and not more than 2 in SWR track at Mean Rail temperature. ✓ Take adequate precautions to reduce creep (i.e., replace ineffective plastic fastenings). ✓ Provide rail anchors other than PSC track and ensure the anchors wherever provided, always butting against sleepers. ✓ Take extra precautions at locations like short stretches of wooden sleepers in metal sleeper track, short stretches of wooden sleepers between short welded panels with anti-creep fastenings, junction of	✘ Do not undertake deep screening and track renewals without speed restriction and the supervision of SE/JE-P.Way. ✘ Avoid inadequate expansion gap, failure to counteract creep in time, non-lubrication of rail joints, failure to remove rail closures from track, inadequacy of ballast conducive for buckling. ✘ Do not allow jammed joints continuously for 6 joints in the case of free rail fish-plated track. ✘ Do not over tight the fish bolts. ✘ Do not undertake greasing of fish plates after hot weather has commenced. ✘ Do not undertake through packing after the onset of summer months. ✘ Do not carry out maintenance operations when the temperature is high.

track laid with anti-creep fastenings and track laid on wooden sleepers without anti-creep fastenings, wooden sleeper track between level crossing on one side and metal sleeper track on other side, wooden sleeper track in the vicinity of insulated joints and SEJ, short patches of wooden sleepers or arch bridges and slab top bridges in a metal sleeper track to avoid buckling. ✓ Educate Mate, Keyman and Trackmen to detect tendency towards buckling of track and protect the track in case of emergency. ✓ JE/SSE-P.Way and other Inspecting Officials should trolley their sections during the hottest part of the day for noticing the behaviour of the track. ✓ Identify locations where continuous falling of keys, ERCs are predominant like loosening of fastenings in sabotage prone area. ✓ Attend to local adjustment of curves wherever abrupt variation between adjacent stations in versines at isolated locations is noticed. ✓ Track should be boxed up before breaking for lunch.	
SWR	
✓ Restrict all the regular maintenance operations when the temperature is within t_m + 25° C. On curves, restrict these works when the temperature is below t_m + 15° C. In emergencies, if maintenance operations have to be undertaken at a temperature higher than the above limits, do not open more than 30 sleeper spaces in one continuous stretch (where t_m = mean rail temperature). ✓ Follow above instructions for run down track also.	✘ Do not allow more than 2 joints consecutively jammed at t_m. ✘ Do not disturb SWR track if more than two consecutive jammed joints are noticed. ✘ Do not undertake major works like major lifting, major aligning of track, deep screening and removal of sleepers in continuous stretch without suitable precautions when the temperature is above t_m + 15° C. Even then do not fail to impose suitable SR till track is consolidated. ✘ Do not open shoulder and crib ballast at one and the same time. ✘ Do not permit slewing of track during hottest period of the day and while slewing, there should not be any lifting effect.

LWR	
✓ Know the de-stressing temperature (t_d) of your section or particular LWR panel and make staff to be conversant. ✓ Keep the thermometers with green, yellow and red paint markings showing the limiting temperature ranges for various works for easy identification by Trackmen / Keyman / Mate. ✓ Carry the equipment as prescribed. ✓ Regular maintenance work shall be completed well before the onset of summer and regular track maintenance operations should be confined to the hours when the rail temperature is below $t_d + 10^o$ C. ✓ The precautions regarding COT and SRs, such as, if rail temperature after a maintenance operation exceeds $t_d + 20^o$ C, an SR of 50 KMPH on BG and 40 KMPH on MG shall be imposed when shoulder and crib compaction has been done and 30 KMPH and 20 KMPH respectively when shoulder and crib compaction has not been done in addition to posting of a mobile Watchman. ✓ The track should not be disturbed during the summer months as far as possible. The ballast shall be opened to the barest minimum required to ensure lateral and longitudinal stability. The ballast in the shoulders once removed should be put back immediately after attention to track and the ballast in shoulder and crib should be consolidated using wooden mallets. ✓ Ballast deficiency, if any should be in the crib portion of the track and not at the shoulder location. ✓ Keep the bolts and buffer rails always tight.	✘ Do not open track for more than 30 sleepers at a stretch when the temperature is within $t_d + 10^o$ C. Keep at least 30 fully boxed sleepers between adjacent lengths opened during manual maintenance. ✘ Do not lift or align track when rail temperature is above $t_d + 10^o$ C. ✘ Do not open the adjacent length before 24 hours in case of BG carrying more than 10 GMT and 2 days in case of MG. ✘ Do not keep the sleeper without shoulder ballast. ✘ P.Way Supervisors, Mate and Keymen should not touch the track unnecessarily unless specifically instructed by SE/JE-P.Way. ✘ Do not open shoulder and crib ballast simultaneously. ✘ Do not try to lift the track while packing sleepers for replacement of ERC and liners and slewing with crow bars. ✘ Do not renew more than one sleeper within 30 sleepers at a time. ✘ Do not renew fastenings not requiring lifting on more than one sleeper within 15 sleepers at a time. ✘ Do not renew fastenings requiring lifting on more than one sleeper within 30 sleepers at a time. ✘ Do not allow loose, missing and ineffective fastenings to remain in track. ✘ Do not neglect checking and attending to the breathing lengths of LWR in a fortnight. ✘ Do not lift track by more than 50mm even if temperature is within de-stressing temperature.