

## **SOUTH CENTRAL RAILWAY**

Safety.387/Fly Leaf/10/2020

### **Fly Leaf No. 10/2020**

## **Attention..... Engineering staff**

### **WINTER PRECAUTIONS TRACK FOR THE YEAR – 2020-21**

**(D.O.No.W.T-5/SP-WP/Vol.IV dated 12.10.2020)**

#### **1. AWARENESS:**

- a. Steps may be taken to increase the awareness in the field officials particularly at the Supervisory levels (P.Way) regarding USFD testing results and action to be taken before onset of winter.
- b. Periodic testing of AT welds as per stipulation of USFD manual (Revised 2012). Feeding of updated data in TMS is to be ensured.
- c. Normal USFD testing of rails as per Need based concept is to be ensured in all sections.
- d. It should be ensured that there are no arrears of USFD testing and corrective action as per provisions of USFD manual is taken.
- e. ADEN of the section should interact with each and every gang and explain the winter precautions to be taken within the next 15 days duly recording the rail temperature.
- f. Engineering officers and staff should do detailed inspections by push trolley at the following locations.
  - a) Ensure that joggled fish plates with appropriate fittings are provided at the respective locations.
  - b) Platform lines and other passenger lines in major junction stations and marshalling yards.
  - c) Corrosion prone areas.
  - d) Major Bridges, tunnels, high bank approaches and sharp curves.
- g. The analysis of failure shall be carried out regularly by the concerned sectional Sr.DEN/DEN.

#### **2. DETECTION OF RAIL DEFECTS LEADING TO FRACTURES:**

##### **A. By USFD Testing:**

- a. 72 UTS rails have shown increasing trend in fracture beyond 250 GMT, whereas 90 UTS rails have shown high failure rate upto initial 50 GMT. Therefore, in addition to USFD testing as per the Need based concept, one round of testing shall be done before 31-st October (before onset of winter) in all 72 UTS rails territory where track has carried more than 250 GMT and in 90 UTS territory where traffic carried is up to 50 GMT.
- b. In addition to normal testing, testing of SKV//AT welds shall be carried out on all major bridges and approaches for a length of 100m on either side before onset of winter.

- ##### **B. By Visual Examination:** Examination of rail ends and bolt holes at fish plated joints is to be carried out at the time of greasing of fish plates.

### **3. DETECTION OF FRACTURES:**

#### **A. By Keymen:**

Duty hours of Keymen should be changed so that failures, if any, can be detected in time. Keymen and Patrolmen should be suitably trained to detect fractures and to take protective measures from 01.11.20 to 28/29.02.21 Time: 06.00 hrs to 11.00 hrs and 14.00 hrs to 17.00 hrs.

#### **B. By Night Patrolmen:**

- a. Night Winter Patrolling shall be in force from 1st November to 28/29th February. The period may be suitably changed/ extended based on the local conditions.
- b. Night Winter Patrolling shall be carried out (in the similar manner as prescribed for monsoon patrolling) from 22.00 hrs to 06.00 hrs on identified Block sections. For this purpose, Night Winter Patrolling charts duly signed by sectional Sr.DEN/DEN shall be issued to all concerned.
- c. The beat length and man power deployment may be decided depending on prevailing local conditions, frequency of train service, weather conditions, etc.
- d. In case, Night Patrolman does not turn up as per the timings indicated in the chart, "speed restriction of 40 kmph" shall be imposed and Goods train shall be allowed first into such Block section.
- e. The Patrolmen shall also obtain signature of the Gateman posted at the Level Crossings enroute in his beat length apart from obtaining signature from the respective ASM. The beat book shall be exchanged by the Patrolmen at the beat exchange point.
- f. Night Foot Plate inspection shall be done by nominated Engineering officials in the respective sections to ascertain the availability of the Patrolmen as per the Patrol chart.
- g. "Special patrolling" may also be carried out by posting a mobile Patrolman in such identified stretches where corrosion of rail is quite severe in addition to the normal Night Winter Patrolling. Such stretches shall be decided by the concerned sectional Sr.DEN/DEN.
- h. Rs.500/- may be awarded to the night patrolmen who detect the rail/weld failure between 22.00 hrs to 04.00 hrs as a motivation.

### **4. PREVENTIVE ACTION:**

- a. Division wise list of identified Rail/Weld failure prone Kms/block sections for the year **2019-20** & 2020-21 (upto 30.09.20) is finalised by CTE. Corrective measures should be taken by implementing 10 point programme as advised by CTE.
- b. All AT welds and SKV welds which have completed their 50% of stipulated fatigue life on sections having annual GMT more than 15, are to be provided with joggled fish plates with 2 far end bolts giving priority at the following locations.
  - i) On curves especially the outer rail.
  - ii) Approaches of Bridges.
  - iii) High Banks above 5 m
  - iv) High banks between 3m to 5m and
  - v) Other locations.
- c. One Metre long fish plates are to be provided at fish plated joints on all bridges including approaches and SWP track. The work on major bridges and approaches has to be completed on priority before onset of winter.

- d. TWR work is to be taken up on priority in identified fracture prone stretches. .
- e. For LWRs identified as fracture prone, destressing may be carried out at a lower temperature i.e. between  $t_m$ , to  $t_m +5$  °C.
- f. Painting of rails in corrosion prone areas is to be taken.
- g. Sealing of liner contact area of rail flange with grease is to be done on gauge face sides in corrosion prone areas.
- h. Painting of weld collar with epoxy paint / Anticorrosive paints to be taken up.
- i. Destressing of LWR/CWR shall be completed wherever due.
- j. Rail fracture/Weld failure prone locations of LWR/CWR should be identified and measures like recoument of missing fittings and destressing at lower temperature for winter season may be taken as per requirement.
- k. Rails having corroded flange should be kept under special watch.
- l. All arrangements for cold weather patrolling should be made as per para no. 9.1.2 (ii) of LWR Manual.
- m. A close watch on rail temperature should be kept and temperature record register should also be maintained by the SSEs/JEs (P.Way). Cold Weather patrolling must be introduced as per Para 1.17/Annexure X B of LWR Manual.
- n. Inspection of LWRs/CWRs & SEJs by SSEs/JEs (P.Way) as per Para 8.1.5 (i) of LWR Manual and attention shall be carried out as found necessary.
- o. While repairing fractures, the rail which is inserted in the track needs to be cleared by USFD before putting into track. Each Section Engineer (P.Way) should have a stock of rails which have been tested by USFD and cleared for usage in track.
- p. Suitable speed restriction shall be imposed on stretches where foot corrosion at the liner contact area is quite severe, especially in such cases, where the corroded liner contact area at the rail foot is shifted and is in suspended condition. Each such case shall be decided by the concerned sectional Sr.DEN/DEN.

**5. ACTION ON FRACTURE:**

- a. The night patrolmen are to be counselled/ trained to take precautions for passing the trains across the fracture location when gap at the fracture is up to 30 mm.
- b. Adequate number of joggled fishplates with clamps, wooden blocks shall be provided at all the manned level crossing gates and in the gang tool box for use in case of emergency.
- c. Joggled fish plates with clamps shall be provided on one of the rails at every one km interval on UP and DN lines separately. However, the location shall be selected in such a way that it is staggered so that fish plates are available in every 1/2 km. for use in emergency.

**CHIEF SAFETY OFFICER**

**SAFETY ORGANISATION                  SOUTH CENTRAL  
RAILWAY**