



पूर्वोत्तर रेलवे/N. E. RAILWAY

कार्यालय

महाप्रबन्धक / सिग0 एवं दू0सं0

पूर्वोत्तर रेलवे, गोरखपुर

Office of the

GENERAL MANAGER / S&T

N. E. RAILWAY, GORAKHPUR

No.: N/563/2/10 (B) Pt. I

Divisional Rail Manager

N.E.Railway

Izzatnagar, Lucknow & Varanasi

SECY/ PCE	ALL HOD'S
ICPD/SD	CPD/BW
CTE	CBE
CE/G	CE/TMC
CE/P&D	CE/WORKS
CE/TP	CE/SD
CWM/BW	CE/RSW

Dated: 23.08.2022

JPO No. 01/2022 (Signal)

Sub :- Joint Procedure Order (JPO) No. 01/2022 (Signal) FOR JOINT INSPECTION OF GLUED JOINTS.

Please find the enclosed Joint Procedure Order (JPO) for Joint Inspection of Glued Joints by officials of S&T and Engineering Departments which is duly signed by CTE & CSE.

It is therefore, requested to instruct the concerned divisional officials of Engineering and S&T department to implement the above JPO in field with immediate effect.

DA - As Above

Digitally Signed by Anil

Kumar Verma

Date: 23-08-2022 15:42:59

Reason: Approved

(Anil Kumar Verma)

Chief Signal Engineer

for General Manager / S&T

Copy to :

1. PCSTE/GKP
2. PCE/GKP
3. CAO/Construction/GKP
4. CSTE/Construction/GKP
5. Sr.DSTE, IZN, LJN & BSB
6. Sr.DEN/Co-ord/ IZN, LJN & BSB

For kind information please.

For information & necessary action please.

JPO FOR JOINT INSPECTION OF GLUED JOINTS

1.0 General:

Maintenance of glued insulated joints is essential for proper functioning of track circuits. To prevent in service failures, the glued joints shall be inspected jointly by Engineering and S&T Departments at SSE/JE level atleast once in three months as specified in "Manual for Glued Insulated Rail Joints" issued by Track Directorate of RDSO vide letter No. CT/GJ/Manual dated 28/04/2022. Maintenance and replacement of defective glued insulated rail joints, is to be done by Engineering Department.

2.0 For New Glued Insulated Rail Joints:

- 2.1 Before installation, the insulation resistance of a new glued insulated joint shall not be less than 10 Mega-Ohms which is measured using an insulation tester (megger) of 100 V DC. Insulation should be tested across the end post as well as between fishbolts and the rails on either side of the rails. Measurement of insulation of all glued joints shall be done jointly before installation.
- 2.2 ERC-J clip and end cut liners should be used at glued joints (as well as Nylon Insulated Joints) to avoid contact of clip with the fishplates.
- 2.3 Only FTC (Fit for Track Circuiting) sleepers shall be used in track circuited areas. The sleeper spacing under glued joints shall be same as that of intermediate sleepers.
- 2.4 At least 10 sleepers on either side of the glued joints shall be properly packed to the correct level.
- 2.5 Proper squaring of the glued joints shall be ensured. The glued joint shall be centrally located over adjoining sleepers as far as possible.

3.0 Inspection and Maintenance of In-service Glued Insulated Joints: -

- 3.1 As glued insulated joints should behave as monolithic unit, there should not be any relative movement between rails and fishplates or separation of rail/fishplate surface and insulation. In case where glued insulated joint does not behave as monolithic unit and insulation resistance is not as per Para 3.2 below, the same should be replaced on priority.
- 3.2 Insulation of glued joints shall be checked in dry condition at a frequency of atleast once in three months (Quarterly) using 100 V DC insulation tester (megger). Insulation condition of fish bolts with respect to rails shall be assessed by measuring insulation between fishplate/fish bolt and rail on either side of the joint. If the insulation is found to be less than 1 Mega-ohms, it shall be planned for replacement of glued joint within 15 days. However, if the insulation is found to be less than 3 Kilo-ohms, it shall be replaced on priority within 3 days.

- 3.3 A faulty glued joint may be checked by taking voltage readings across the track relay terminals. Any change in voltage reading when the adjacent track circuit feed is shunted or disconnected will indicate faulty insulation joints. Reasons for the same should be analyzed and corrective action be taken in such case. Appropriate action shall be taken for replacement of glued joint as per the criteria given in Para 3.2 above.
- 3.4 The replacement of glued insulated joints, wherever required, will be done by Engineering Department. The S&T staff as required for connection/reconnection and testing shall be provided at site.
- 3.5 Metal overflow/burrs if any, on the rail table at the joints shall be removed skill fully by Engineering staff in presence of S&T staff for avoiding any damage to end post so that ends do not bridge with each other and cause a potential short. It shall also be ensured that during removal of metal overflow/burrs, no dent/notch is formed in the rail.
- 3.6 Any iron flakes or brake-block dust accumulated at the glued joint or on adjacent rails shall be brushed off by S&T staff so as to avoid possibility of electrical conductivity.
- 3.7 The sleepers and fastenings at Glued Insulated Joints shall be ensured in proper and effective condition. Proper elastic rail clip should be used. Any missing/or incorrectly used ERC shall be replaced.
- 3.8 The ballast in track in the vicinity of the glued joints shall be clean to ensure proper packing and efficient drainage. It shall be ensured that the ballast is clear off rails and rail-fastenings. The clearance from the underside of rail to ballast shall normally not be less than 50 mm for the glued joint.
- 3.9 It shall be ensured that spacing of sleepers under glued joints is same as that of intermediate sleepers. End post location shall be centrally placed between two sleepers as far as possible and in no case, it should be on the sleeper.
- 3.10 During inspection, glued joints should be closely observed for any loose/broken/missing bolts, fishplate cracks and rail end batter. Suitable corrective action should be taken in time.
- 3.11 Proper records of all joint inspections of glued joints and actions taken thereafter, shall be maintained in a register at station. The record shall be kept in the format enclosed as Annexure-I and shall be jointly signed by P.Way and S&T staff/officer.

(No. N / 563 / 2 / 10 (B) Pt. - I dated 18.08.2022)

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(ANIL KUMAR VERMA)
Chief Signal Engineer

Digitally signed by Ram Janm
Date: 2022.08.22 10:32:00 +05'30'
(RAM JANM)
Chief Track Engineer