EAST COAST RAILWAY

Office of the
Pr. Chief Safety Officer
Bhubaneswar

No.ECoR/SFY/770 Dt:-21.10.2024.

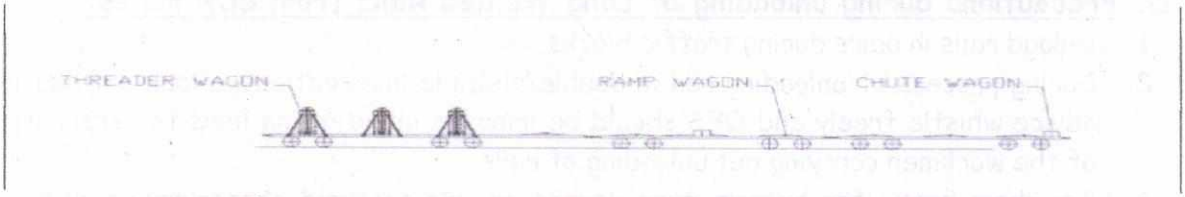
SAFETY CIRCULAR NO.:-11/2024

Sub: -Zonal safety circular on precaution during unloading of long rail panels from EURs.
Ref: a. Railway board letter No-2014/Track-1/5/22 of date 30.06.2015.
b. RDSO Letter No. CT/Rail/Handling Dt.05.11.2014.

On 02.11.2022 at 14:37 Hrs in DKS yard of NGP Div; there was a derailment of 02 wagons of EUR at crossover point due to opening of lower most right side flap door of the 4th wagon from rear (not being secured by locking bolt); got stuck with head stock of the 3rd wagon from rear while negotiating multiple turnouts with reverse curve and led to off loading and subsequent derailment. There was a similar derailment of 20th wagon at KPXR station of KUR div on 23.03.2023 while negotiating multiple cross over. During unloading of panel rail many times staff got injured and there was damage to OHE Mast, signaling installations, fixed structures and infringement to track. Following precautions/instructions are reiterated below for strict adherence:

A. Formation of EUR rake will consist of the following:-

1. Eighteen BRHs/BRNs/BRN-A/BRNAHS (modified) for loading of 10/20 Long Rail panel.
2. On each wagon, rails are supported at three locations, two at end and one at centre.
3. The first and the eighteenth wagon is called Bulkhead wagon and is the end wagon with flap door for each five layer which prevents rails from sliding during transportation. The flap doors are opened during unloading.
4. At the unloading end, three empty BRHs/BRNs/BRNA/BRNAHS called threader wagon with adjustable ramper, ramp wagon and chute wagon are provided. This needs to be attached for the purpose of unloading and should be in the sequence shown with chute wagon being the unloading end wagon.
5. A covered wagon for carrying materials, tools & men should also be part of composition. The wagon should be attached on other than unloading end.
6. The rake will run as one complete rake and no wagon should be detached enroute. In case of any wagon being marked sick enroute, whole rake should be considered as sick and should be attended on priority.
7. Brake van shall be attached in rear except while going ahead for unloading purpose. In that case guard has to travel in engine. In case of departmental train concerned supervisor may perform the duty of guard



Threader, Ramp and Chute wagon at the unloading end

B. Precautions while on run/movement of EUR:

1. No loose shunting of EUR rake or sudden brake application prohibited.
2. Ensure proper closure of bulk head doors and positioning of rail stoppers during motion.
3. Staff should travel only in 8-wheeler staff coach/covered wagon during EUR movement.
4. EUR rake must not run backward or forward with open bulk head doors.
5. Panels should not be pulled out in advance into ramper and threader wagons in the yard or enroutes.
6. Avoid movement of 10/20 Rail Panel rakes over multiple crossover/second and subsequent loops to prevent derailments
7. Follow 30 kmph speed restriction on gradient steeper than 1 in 80.
8. At all crossovers, maximum speed for EUR should be Restrict to **15 kmph** or lower speed permitted at specific turnout
9. Ensure proper End Unloading Rake with valid BPC and speed certificate before loading rails.

C. Unloading of long rail panels from EURs:

1. The unloading system covered here is conventional (panel rail with holes at ends).
2. Unloading of rails from the End Unloading Rake (EUR) shall be done in traffic block only.
3. The unloading shall be started from top layer panels. The protective rail and flap door of bulk head shall be opened during block only for the layer to be tackled. Once all the rails of that layer are unloaded, next layer door shall be opened for unloading.
4. Rail panels should be tied with wire rope slings with the help of HTS bolts through the holes provided at the end of panels. Only tested slings shall be used for unloading of welded panels.
5. Rope should be passed through the arrangement fixed in threader and ramper wagons attached at the end of EUR rake to prevent rails from bending while unloading.
6. Height of rampers should be adjusted/ maintained with respect to the layer of rails being unloaded and it should be decreasing towards end of wagon. The height of ramper to be so adjusted that a smooth slope can be provided to the panels to be unloaded.
7. Other end of wire rope should be tied to any fixed structure capable of pulling rail load and allow the rake to move forward at very cautious speed not exceeding 15kmph so that in the event of any unusual/unsafe situation the rake/train can be stopped immediately.
8. Rail panels at equal distances from center line shall be unloaded. Eccentric unloading or unloading from only one side of BFR is strictly prohibited.
9. Just before complete unloading of first pair of rail panel, the rake should be stopped and next rail panel to be unloaded is tied with the near end of rail panel partially unloaded, with rope. Then, the rake should be moved forward to unload next rail panel. This process is to be continued for unloading of successive rail panels.
10. The EUR rake shall never be moved backward during unloading.

D. Precautions during unloading of Long Welded Rails from EUR rakes:

1. Unload rails in pairs during traffic blocks,
2. During process of unloading rail in double/multiple line sections, a look out caution with advice whistle freely and OES should be imposed on adjoining lines for ensuring safety of the workmen carrying out unloading of rails.
3. Fix chain hooks for bottom panel layers on-site to avoid entanglement with coupling assembly.
4. Whenever unloading of 10/20 rail panels is to be on graded section having gradient

steeper than 1:100, unloading should be done by moving the train towards down gradient.

5. Start unloading from the top layer panels, opening bulk head flap doors only for the targeted layer.
6. Securely close and lock flap doors of layers not being unloaded before moving the rake.
7. In case, traffic block is to be cleared before complete unloading of rake, the clamps for layers where rail panels are left shall be re-fixed properly before movement of rake to avoid any chance of movement of panel during run. All the panels in that layer shall be properly secured with the help of wire rope to stanchions and then only formation should be moved with a speed restriction of 20 kmph. On steeper gradient this speed may further be reduced.
8. Use tested slings and HTS bolts for all connections during unloading.
9. Never move the EU Rake backward during unloading.
10. Unload only at locations with a vertical clearance of at least 4500mm from ground level to fixed structures.
11. No unloading of rail panels shall be under taken on ballast-less open web girder bridges.
12. Minimize the use of turnouts and crossovers during unloading.
13. If unloading of the panels in the night (in case of emergency) adequate lighting arrangement should be made.
14. Extra care should be taken during unloading of panel rails at curves.

E. **Personnel Safety:** Safety of personnel involved in handling of rails is of utmost importance. Following precautions must be ensured on personnel safety -

1. The staff deputed for unloading of EUR rakes must not travel on BFRs/BRNs. They shall travel only in tool van/ separate wagon provided in rake composition. No staff shall be allowed on ramper/threader during movement of rake from one station to another station where rake is moving for non- block activity. Trackmen/staff shall not be allowed to stand between bulkhead doors and panels on either side of the formation while rake is on run.
2. The staff must use protective gloves and clothing to minimize the risk of skin abrasion, lacerations and exposure to extreme temperature.
3. Handling of rails shall be done using proper tools and equipment approved by SSE (P. Way) in-charge. No locally made arrangements shall be used.
4. During unloading there is chance of breaking of wire rope sling, bolts etc which can injure the staff. Extra alert and care should be taken by not standing near the rope & panel during unloading.
5. The staff must wear distinct coloured helmet and clothing
6. The staff shall use steel toe- capped protective footwear.
7. The staff shall be properly trained and cautioned to avoid standing under suspended loads, sudden dropping and impact of rails.
8. Safe working in the vicinity of electrical conductors and cables shall be ensured.
9. Necessary precaution for working at heights needs to be taken.

F. **Placement welded rails:**

1. Keep rails vertical, straight or give a smooth curvature to cross any obstruction.
2. On multiple line section, the rails should be kept between tracks on wooden gutka to avoid any kink formation.
3. Ensure that signaling/Traction bonds are not disturbed while placing rails.
4. Handle rails carefully to avoid contact with both rails of the track to prevent track

circuit failures in track circuited territory.

G. Precautions for handling of rails in Electrified areas:

1. In Electrified territory, staff shall be careful, no staff climb over rail panels without obtaining of power block/Permit To Work.
2. Touching of fallen wires should be avoided unless power is switched-off and the wire or wires are suitably earthed.
3. Loading and unloading shall be done under the supervision of an Engineering Official not below the rank of a SSE/P. Way who shall personally ensure that no tool or any part of body of worker comes within the **"danger zone"** i.e. within 2m of the OHE.
4. Rails should not touch each other to form a continuous metallic mast of length greater than 300m.

H. Responsibility of Staff:

1. Crew and Guard should be counseled properly regarding the flap door of the panel rail wagons.
2. Crew and Guard should continuously look back (during panel rail rake movement) for ensuring that the train is running in safe condition.
3. Guard has to show continuous hand signal throughout the movement of the train during unloading and shall see for any post unloading infringement.
4. LP Shall be vigilant to follow instructions from JE/P.WAY, Guard and constant look out for signals from Guard during unloading.
5. Respective SSE/JE/(P.Way) shall be responsible for safe unloading of panels and efficient mechanism of EUR unloading including slings, chains, hooks etc. and shall ensure lubrication of worn gear of rampers and proper securing of roller arms on the stanchion.
6. Adequate man power to be ensured by JE/SSE(P.Way).
7. Validity of BPC of the rake to be ensured by Guard /SSE/JE(P.Way) and after expiry of BPC the rake should be issued with fresh BPC as per the extent rule. Any failure on rolling stock should be immediately brought into the knowledge of C&W staff for necessary remedial action.
8. C&W is responsible for maintaining under gear/ under frame, bogies and brake power of rake including the arrangement of spare items required for maintenance of these parts.
9. Obstruction/failure/defect/issue related to C&W observed in the rake at any point of time (during BPC validity) shall be intimated by engineering control to C&W control for any assistance required.

(S.K Mishra)
Pr. Chief Safety Officer
East Coast Railway
21/1/24

Copy to:

1. Secy. to GM-for kind information of GM.
2. Secy. to AGM - for kind information of AGM.
3. PCEE, PCME, PCOM, PCCM, PCE, PCSTE /ECoR-for information and necessary action.
4. DRMs-KUR, SBP & WAT for information and necessary action.
5. Sr. DSOs- KUR, SBP & WAT for information and necessary action.
6. Principal MDTC/VSKP & MDZTI/BBS for information & necessary action.

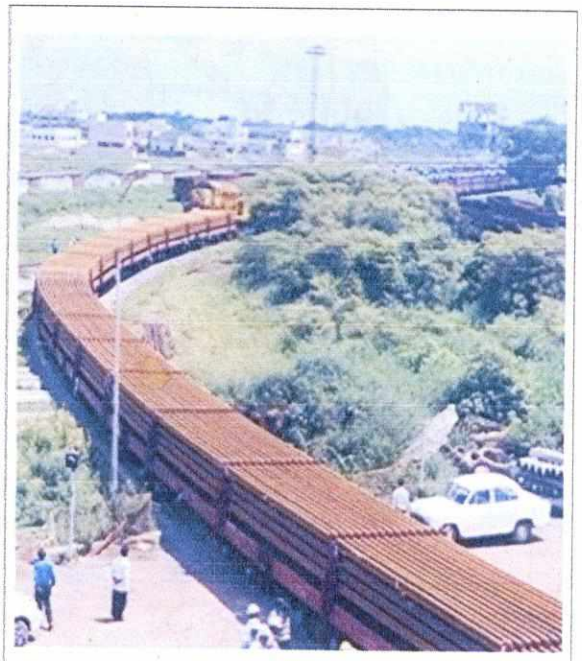
The adjustable ramp in threader wagon

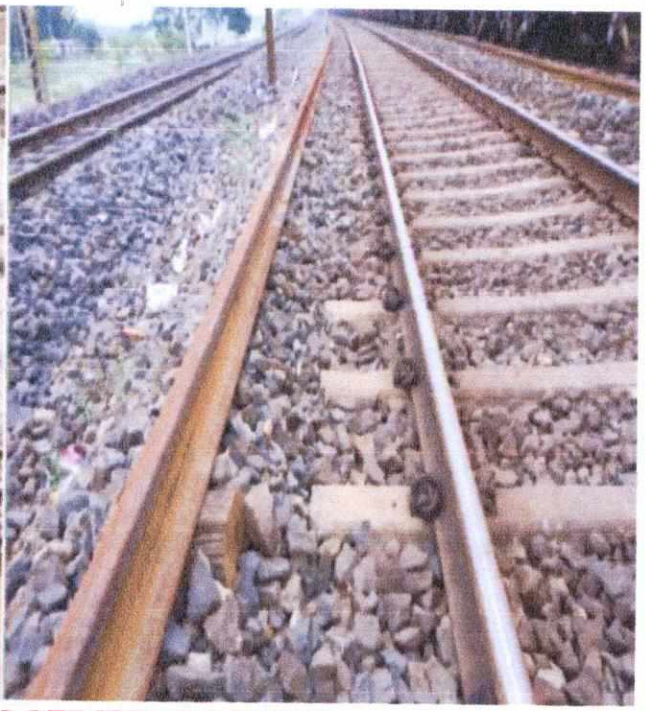
Protective wear for staff

First Rail tied to track through chute

Three supports with rollers in between rails and Bulkhead with flap door

EUR rake with 20 Rail panel





UNLOADED RAILS PROTECTED BY GUTKA