

SOUTH CENTRAL RAILWAY
HEADQUARTERS SAFETY ORGANISATION
BI-MONTHLY SAFETY BULLETIN – JULY & AUGUST 2021

DETAILS OF ACCIDENTS AND UNUSUALS THAT TOOK PLACE
DURING JULY & AUGUST 2021

1. **Brief of the accident (Derailment):** On 19.07.2021, between BVRT- BVRM stations of BZA division, as part of ongoing doubling work between BZA-NS LC No.117 at KM No. 107/9-7 is proposed for elimination by providing RUB (4X3m) at KM No. 107/6-8 by RVNL. Open line engineering supervisors were nominated to monitor the work. The mega line block was planned from 11.45 hrs to 17.45 hrs. Before the arrival of Railway open line engineering officials at 08.45 hrs, the work of lifting of track was undertaken by the PMC supervisor without intimation to nominated open line staff or without taking line block and without ensuring proper ramping of lifted track. This has resulted in excessive twist in the track and could have caused the derailment of Goods train BCN/PAGM Engine No. 14522/WDG3A/VSKP.

Cause of the Accident: due to negligence on the part of RVNL, PMC staff has resulted in excessive twist beyond the tolerance permitted in IRPWM para no.526.

Responsibility:

Primary: Sri. B.Sudhir, supervisor(P.Way) Pmc of Systra MVA consulting(India) Pvt. Ltd.

Blameworthy: Manager Civil (export) RVNL, Package-III/TNKU

Matters brought to light:

1. RVNL has not deputed a competent PMC P.Way supervisor to carry out the work of track lifting.
 2. Incompetent flagman without competency as per ESO 65 had been deputed by RVNL.
 3. Safety precautions had not been followed.
2. **Brief of the accident (SPAD):** On 12.08.2021 at about 08.45 hrs, at BKPT station of GTL division, LP of Train no AWY/OLR BCN L with Loco No.41058/KJM passed UP Home signal S-1 of BKPT at ON and stopped beyond 23m from Home signal. LP stated that he applied A-9 brake along with RB (regenerative brake) at the location of Inner Distant signal. Subsequently, ALP applied Emergency Brake at about 200m in rear of Home signal. Thereafter, LP applied SA-9 also but the train could not be controlled and passed Home signal at ON for a distance of about 23m.

Cause of the Accident: the LP has not reduced the speed of the train as desired and also he has failed to control the train a prescribed.

Responsibility:

Primary:

1. Sri. P.Uday Kumar, LP/NRE has failed to stop before the Home signal S-1 of B KPT station and passed at 'ON' position.
2. Sri. MD. Rizwan, ALP/NRE for not alerring the LP and failed to apply emergency brakes in time.

Secondary:

1. Sri.K.R.Mohan CLI/NRE nominated CLI of Sri. P.Uday Kumar P/NRE, for inadequate counselling to LP.
2. Sri. C.Penchalaiah, CLI/NRE nominated CLI of Sri. MD. Rizwan, ALP/NRE, for inadequate counselling to ALP.

Blameworthy:

1. Sri. Y.Srinivasa Bbu, SCOR
2. Sri. M.Eranna TLC .

Inspection Notes of PCSO/SCR during GM's Annual Inspection between BDCR-SC Stations of SC division on 10th February 2021

S. No	Observations/Irregularities
1.0	General Observations: The following deficiencies / shortcomings are noticed in general at different locations:
1.1	<p>Points and Crossings with thick web switch:</p> <p>a) A gap of 17 mm & 20 mm is noticed between the stock rail and tongue rail in closed condition at JOH, whereas this gap should preferably be nil or at least less than 3 mm. Pre-curvature of new stock rail and tongue rail should be mandatorily checked by SSE/JE(P.Way) before laying. Curvature, if necessary, should be rectified as per stipulated standards before laying. If this is done meticulously prior to laying of new TWS, the gap at JOH can be reduced to zero / less than 3 mm on provision of SSD (Spring Setting Device).</p> <p>b) At the fish plated joints at toe of CMS crossing and heel of CMS crossing, it is noticed that either ordinary ERCs are provided or the ERCs are driven in reverse direction. This is noticed at all five yards (BDCR, PCZ, DKJ, WL & GNP) inspected. It should be ensured that ERC 'J' clips are provided at these fish plated joints and driven in proper direction. A Drive may be launched by the Division to set right the same at all points and crossings in all the yards.</p> <p>c) Wide gaps upto 10 mm are noticed at the fish plated joints at heel and toe of CMS crossing as against the stipulated gap of zero or a maximum gap of 1 mm. Such large gaps could be due to in Drilling of larger diameter hole (32 mm diameter instead of 26.5 mm diameter) or drilling of hole at improper locations which is basically due to not using standard template. All the concerned P.Way engineering officials should ensure rectification of such joints on main line on top priority and should also take measures to ensure usage of proper template and correct size drill bit as stipulated for the purpose.</p> <p>d) GFN liners provided on the non-gauge face side of the outer rail in the lead curve portion of the turn-out are getting broken / crushed / lifted up presumably due to lateral thrust exerted in the outer rail by the wheel flanges of the freight rolling stock. This problem may be addressed with provision of suitably designed gauge arresters which is under trial in BZA yard or by any other suitable mechanism.</p> <p>e) It is noticed that L traction Bonds (Longitudinal Traction Bonds) are not provided at the fish plated joints of toe of CMS crossing and heel of CMS crossing at GNP station and other station yards also. This is a safety item and action should be immediately taken by Electrical TRD Department for provision of these L bonds on priority duly drilling holes of 16 mm diameter at neutral axis of the rail.</p>
1.2	<p>Crew Lobby :</p> <p>It is noted that running staff (LP/ALP/Guard) who are found positive on BA equipment on reporting for duty with high values of upto 500 mg / 100 ml, but the same staff when tested second time with a hand held equipment, the value was found to be '0' mg / 100 ml within 5 minutes after the first test. No remarks / comments are entered by CCC in regard to such major deviation between the two tests. Such type of observation of 0 value in the BA Test in the second time even though very high value is recorded in the first BA Test is noticed during the Safety Audit by HQ team at different crew lobbies on all Divisions of this Railway. This issue needs to be examined and checked thoroughly by Power Officers (ADEE/DEE/TRSO & Sr. DEE TRSO) on regular basis. In addition,</p>

	officials of Safety Dept. from the Division may also check this aspect during their inspections.
1.3	<p>P. Way Gang equipment:</p> <p>It is noticed that hand gloves and metallic jumpers are not provided to the Gangs as part of their standard equipment in sections with OHE territory. Two pairs of hand gloves as per specifications meant for OHE territory and the metallic jumpers of approved design shall be provided to each P. Way gang.</p>
1.4	<p>RUBs:</p> <p>a. It is noted that vertical clearance of height gauge provided on approaches of RUB is more than the vertical clearance at the bridge / LHS proper (from the top of the road surface to the bottom of the top slab of the LHS (which is incorrect and unsafe) at a few RUBs. It should be ensured that vertical clearance of height gauge is lower by 150 mm of the opening of the LHS/RUB.</p> <p>b. 1200 mm diameter RCC pipes are provided adjoining to the LHS to drain out storm / rain water due to run off. At the inlet of the pipe approaching to a steel grill with aperture size of 100 mm / 150 mm may be provided to prevent ingress of vegetation / tree branches / debris and also to prevent entry of stray dogs etc.</p>
1.5	<p>Major Bridges:</p> <p>It is noticed that rail screws provided for guard rail on the approaches of major bridges are either away from the foot of the rail or not holding the rail foot with a clear gap between the lip of the rail screws and the top of the rail foot. This problem is due to Provision of 52 kg guard rails instead of 60 kg guard rails or incorrect drilling of the holes in the PSC sleepers or due to provision of plate screws instead of rail screws.</p> <p>P. Way Engineering Officials should take immediate action to rectify the same on the approaches of all major bridges, so that guard rails are held firm with PSC sleepers and serve the intended purpose. This item has got direct bearing on safety and therefore, this should be attended to on top priority. Further, it is noted that only 2 or 3 fish bolts are provided for the guard rails as against 4.</p> <p>Longitudinal traction Bonds are not provided at the fish plated joints of the rail level at major girder bridges. It should be provided on top priority. Electrical/Trd officials to ensure provision of the same on priority.</p>
1.6	<p>LC Gates :</p> <p>It is noticed that speed breakers are not provided as per the standards. It is also noted that the caution board of the speed breakers for road users is not located at proper locations. Engineering officials may ensure that speed breakers as per Annexure 9/5 and caution boards to road users as per Annexure 9/6 of IRPWM shall be provided. The relevant colour code as given in the IRPWM should be ensured.</p> <p>a) It is noticed that check rail is lower by even upto 8 mm with respect to running rail whereas it should be kept at the same level of the running rail or at least within 3 mm.</p> <p>b) One pair of hand gloves as per specification meant for OHE territory shall be provided at the gate lodge as gate equipment.</p> <p>c) Road surface on the either side of speed breaker is found to be with lot of undulations and pot holes. The same should be rectified. The road surface on the either side of the speed breakers should be maintained to proper standards.</p>

1.7	<p>Station Yards:</p> <p>It is noted that cress between the lines in the yards and the cress adjoining to the extreme lines is generally high and is found to be upto the top of the sleeper level. This cress is filled up with debris / muck at intermittent locations impairing the yard drainage system. Engineering officials should ensure that the cress should be cut and lowered so that the cress is lower by about 650 mm to 750 mm with respect to the top of the adjoining track rail level. This is a safety item and should be ensured so as to ensure proper drainage, retentivity of tamping & track parameters, prevention of pumping at the joints and also to reduce possible track circuit failures.</p>																								
1.8	<p>It is noticed that rail screws are inserted in ERCs on the main line on GNP yard to prevent working out from insert / dropping off from the inserts of PSC sleepers. This appears to be due to holes of the insert of PSC sleepers getting elongated during service. Which could be due to improper maintenance such as greasing not being done for the CI insert at stipulated intervals i.e once in a year. This arrangement of driving the rail screw in ERCs is non-standard and incorrect. Population of such defective sleepers with elongated CI insert holes location wise should be identify and action plan shall be drawn for replacement of these sleepers. This is an important safety item especially in view of increased sectional speed of 130KMPH.</p>																								
2.0	<p>BDCR Crew lobby:</p>																								
2.1	<p>9 hrs statement:</p> <table border="1"> <thead> <tr> <th>Month/Year</th> <th><9hrs</th> <th>9-11hrs</th> <th>11-12hrs</th> <th>12-14hrs</th> <th>>14 hrs</th> </tr> </thead> <tbody> <tr> <td>Nov.2020</td> <td>63.1%</td> <td>23.4%</td> <td>7%</td> <td>6.4%</td> <td>2%</td> </tr> <tr> <td>Dec.2020</td> <td>53.7%</td> <td>25%</td> <td>8.4%</td> <td>12.9%</td> <td>4.3%</td> </tr> <tr> <td>Jan.2021</td> <td>63.5%</td> <td>21%</td> <td>7.4%</td> <td>8.2%</td> <td>2.1%</td> </tr> </tbody> </table> <p>Note: - Division should control more than 9 hrs cases and especially bring down cases of more than 12hrs preferably to Nil or maybe up to 1%.</p>	Month/Year	<9hrs	9-11hrs	11-12hrs	12-14hrs	>14 hrs	Nov.2020	63.1%	23.4%	7%	6.4%	2%	Dec.2020	53.7%	25%	8.4%	12.9%	4.3%	Jan.2021	63.5%	21%	7.4%	8.2%	2.1%
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3.0	<p>Running Room: To prevent of cattle, dogs etc., into premises cattle trap may be provided.</p>																								
4.0	<p>BDCR Station:</p> <ol style="list-style-type: none"> OHE is not provided for Pit line, Jumbo siding & sick line. It may be mentioned in SWR at Para 2.0. Two FOBs are available in station. Both are not mentioned in SWR, SWOD and signalling panel. The same may be suitably incorporated. BSNL Telephone bearing number 08744-242682 is one of the means of communication as per G&SR and SWR Para No.5. It is not available, It may be provided at the earliest since it is one of the means of communication. BDCR Yard: Road No.2 (main line) having free rail joints provided with 2/3 bolts to 1.0m fish plates. All 6 bolts shall be provided at all fish plated joints. SEJs on both ends provided. 																								
4.1	<p>At DKJ end on P.F.No.1 Path way available behind the General waiting hall. Road vehicles may come on P.F. Entry from path way to platform to be barricaded.</p>																								
4.2	<p>At RUSG end on P.F.No.1 Path way available towards P.F. Road vehicles may come on P.F. Entry from path way to platform to be barricaded.</p>																								
4.3	<p>On Platform no.1 DKJ end between OHE masts no. BDCR/1020 & BDCR/1019, approximately 1.0m length steel bars are projecting out, which is unsafe for passengers. These bars should be removed.</p>																								

4.4	<p>Point No.37B, 1in 12, FSL, 60kg rail with PSC sleepers at KM 54/22-20:</p> <ul style="list-style-type: none"> a. The month & year of laying of Point is not painted at prescribed location i.e web of switch rail. The same may be done early. b. Opening between stock & tongue rail at JOH is (RH side is 17mm) as limited to 10/12mm without any force at JOH. The gap could fully close after application of force by crow bar at JOH. Pre-curvature of tongue rail & stock rail need to be ensured before laying on the track. c. Gauge at ANC is -6mm. Cross level on main line at station no.7 & 8 is CL & 7LL, on turn-out is CL & 6LL. Need to be attended. d. CMS crossing joint gaps are wide i.e 10, 6, 3 & 9mm against requirement of gapless joint. e. Crushed / torn GRSP in switch & turn-out, need to be replaced. f. Under/over driven ERCs to be driven properly.
4.5	<p>Point No.36, 1in 12, FSL, 60kg rail with PSC sleepers at KM 54/22-20:</p> <ul style="list-style-type: none"> a. Outer rail of turn-out, non gauge face side GFN liners are missing / broken, need to be provided. b. CMS crossing joint gaps are wide i.e 2, 4, 5 & 5mm against gapless. Sleeper spacings at crossing portion need to be adjusted. c. Crushed / torn GRSP in switch & turn-out, need to be replaced. d. Under/over driven ERCs to be driven properly. 'J' type ERCs to be provided at prescribed locations i.e at all fish plated joints, CMS crossing joints, Glued Joints.
4.6	<p>Section Register of SSE/P.Way/NBZA:</p> <ul style="list-style-type: none"> a. Index page to be updated properly i.e contains with subject, page number. b. section register is last initialled by ADEN/DKJ on 22.03.2001. Further particulars are not updated in the register. c. <i>As per Para No.656 of New IRPWM-June'2020 "(1) Each SSE/P.Way(in-charge) shall maintain a Section Register containing all important information including a brief history of the section. (2) The entries made in the section registers shall be brought up-to-date from time-to-time and these shall be scrutinised in the beginning of every year by the Assistant Divisional Engineer".</i> d. Registers other than 15 registers list given "Withdrawal of Registers' as per Para No.1307 of New IRPWM-June'2020 are to be maintained in physical form and should be periodically updated.
4.7	<p>Store Depot of SSE/P.Way/BDCR:</p> <ul style="list-style-type: none"> a. In store room LPG gas cylinder and inflammable items i.e K'oil, petrol are available nearby the welding portions are stored which is unsafe. LPG cylinder should be placed in a separate room b. 'Write off (DS-8) may be processed early for condemned small track machines i.e Abrasive rail cutter(1), Simplex jacks of 5 Nos and the same should be disposed off. Some of small machines are not in working order which may be repaired and made functional. Redundant machines/equipments stacked in store room are need to be disposed early. c. AT welding portions of ITC (60kg-60 Nos & 52kg-18Nos), are stacked in store depot on the floor which may cause dampness. These should be stacked in shelves well above floor level to prevent in contact with moisture on floor. These should be stored in a box not to expose by moisture as per guidelines on AT welding manual i.e <i>Portions should be stored in a secure, non-combustible building. While it is preferable that they should be stored separately, they may be stored with other non inflammable materials, such as equipment and small tools, mould, luting sand in sealed bags, etc. In which case ideally they should be segregated. The store should be dry with ventilation to prevent excess humidity or dampness, and should be designated as a non-smoking area, with no naked flames. Portions must not stored in the same building as explosive or flammable</i>

	<p>items (e.g. Fuel, fuel gases, igniters). The sealed boxes must not be opened until immediately prior to use.</p> <p>d. New small track machines which are received recently to be tested and should be put to use on regular basis.</p>
5.0	<p>Traffic Interlocked LC No.3 MB at KM 7/3-4 between PCZ-DKJ stations:</p> <p>a. Safety chains provided to gate posts instead of providing a separate vertical post on both sides.</p> <p>b. Wicket gates may be provided.</p> <p>c. Speed breaker is not as per standard. This may be rectified. Speed breakers to be painted.</p> <p>d. Check rails are lower than the running rail of 8mm.</p> <p>e. Rail barricading parallel to road, opposite to gate lodge may be provided for about 15m in length.</p> <p>f. Clearance at height gauges 4.76m on both sides which is as per stipulated limit.</p>
6.0	<p>PCZ(Pocharam) Station:</p>
6.1	<p>a. BSNL Telephone is one of the means of communication as per G&SR and SWR Para No.5. It is not available It may be provided early since it is one of the means of communication.</p> <p>b. VDU panel not having OHE power block, rusty rail options which to be incorporated.</p> <p>c. At KM DK 2/11-12 EC socket door was in open condition. It should be locked.</p>
6.2	<p>Joint Inspection of Points & Track circuited:</p> <p>a. 1st quarter inspection done on 09.02.2021. Total of 8 defects noticed and the same are not yet attended. These points are laid recently.</p> <p>b. Cross level at Machine sleepers no.3 & 4 (points are in straight portion) are 15RL & 13RL in Point No.13A, 16RL & 15RL in Point No.13B, 25LL & 30LL in Point No.17A and 25LL & 30LL in Point No.18A. However no comments on these irregularities in the register by the both supervisors. These locations need immediate attention.</p>
7.0	<p>RUB No.1MB at KM 2/13-14 between PCZ-DKJ stations:</p> <p>a. Height gauge clearance from road surface is 4.42m. RCC Box clearance from road surface is 4.36m. Height gauge clearance needs to be corrected and this should be below 150mm of box/slab clearance.</p>
8.0	<p>RUB No.620A(1x5x4) at KM 456/6-8 between GLA-GUU stations:</p> <p>Warning board to road users if rain water stagnated upto certain water level at RUB passage location on both ends, need to be provided.</p>
8.1	<p>DKJ Yard:</p> <p>a. DKJ yard – Road No.1, Name board vertical clearance from platform surface to bottom of name board is 1.66m against 2.0m.</p> <p>b. DK2/11-12 – EC socket door is in open condition and this may be kept locked.</p> <p>c. Road No.1 is LWR track, both ends SEJs are provided. But few fish plate joints available in platform portion track.</p>
9.0	<p>Major Girder Bridge No.620(10x18.30m) on Pakala river at KM 455/11-15 between GLA (H)-GUU station:</p> <p>a. Gauge varying -1mm to -7mm. Cross level varying from 2LL to 4RL.</p> <p>b. Sleeper spacing varying from 320mm to 610mm. Steel sleepers Spacing c/c 600mm, clear distance bet two sleepers should not be more than 450 mm, clear spacing of Joint sleepers 200mm, needs to be ensured.</p> <p>c. Wooden nose block at end of guard rail to be fixed properly at MABD end approach.</p> <p>d. It is found that full compliments of all P.Way fittings are provided and tight on bridge</p>

	<p>proper.</p> <p>e. Condition of sleepers & fittings are intact.</p> <p>f. Trolley & Man refuges are provided and are in good condition.</p> <p>g. Proper inspection platform has been provided on piers to facilitate bridge staff for inspection of bearings of girders.</p>
10.0	<p>Traffic Interlocked LC No.90 at KM 460/6-8 between DKJ-GLA(H) station:</p> <p>a. TVUS: 1, 11,242, RVUS: 930, OH on 15.01.2020, census date 03.2019. Division should study feasibility to provision ROB/RUB.</p> <p>b. Wicket gates available. But it is inside the booms towards track side.</p> <p>c. Height Gauges 4.44m & 4.66m as against stipulated limit of 4.78m.</p> <p>d. Speed breaker board is provided far away from the speed breaker (>50m) against 5-10m. The same should be relocated.</p> <p>e. The angle of lifting barriers in open condition is only 60⁰ against 85 to 90⁰. This should be rectified</p>
11.0	<p>Ghanapur (GNP) Station:</p>
11.2	<p>Ghanapur (GNP) Station Yard:</p> <p>a. SEJ at ahead of Point No.12B, split pins to check rails to be provided.</p> <p>b. Longitudinal bonds (Traction) at most of the CMS crossing locations are missing / not provided which should be provided on priority.</p> <p>c. Drainage arrangement at Point No.12B & 13B locations in yard to be improved.</p> <p>d. UP main line at KM 305/11-13, cess should be made up as per standards.</p> <p>e. Point No.11A, opening between stock & tongue rail at JOH is (RH side is 17mm) as limited to 10/12mm without any force at JOH. The gap could fully close after application of force by crow bar at JOH. Pre-curvature of tongue rail & stock rail need to be ensured before laying on the track.</p> <p>f. Point No.11B, ahead of CMS crossing – Glued Joint numbers not painted.</p> <p>g. Point No.11B, TWS with SSD. SRJ to SEJ on DN line is 25.40m against 3 rail length. In breathing length portion of LWR adjoining to SEJ No.3DN, sleeper spacing to be corrected and squaring of sleepers to be done. Crushed, displaced GRSP should be replaced.</p> <p>h. SEJ No.3DN- 6 sleepers provided against 7 sleepers. End sleepers as per alteration to SEJ Drawing 2 sleepers (one on either sides) to be provided with standard chair plates. Gauge varying -5mm to -6mm. cross level varying CL to 5RL. Needs to be attended.</p> <p>i. UP exit BPAC Axel Counter track detector reflectors in corroded and damaged condition. The same should be replaced.</p> <p>j. Gauge -8mm in breathing length portion of LWR on approach of SEJ No.3UP.</p> <p>k. Gang No.7 (1+1+20) attending boxing work at KM 305/0-10. Checked equipment and two pairs of hand gloves as per specifications meant for OHE territory shall be provided.</p>
12.0	<p>Minor Bridge No.398(1x6.1m) at KM 284/0-2 between RGP-ZN stations:</p> <p>Sleeper spacing bridge proper and approaches need to be corrected.</p>

ATTENTION

STATION MASTERS

5.08. Access to and operation of equipment.— No unauthorised person shall be permitted to have access to or operate signals, points, electrical block instruments and electrical communication instruments or any other appliances connected with working

ATTENTION

LOCO PILOTS / ASISTANT LOCO PILOTS/GUARDS

S.R.6.01.1.1. In the event of a Loco Pilot experiencing a lurch, unusually slack or rough running, the instructions referred in SR 6.07 should be followed by all the staff concerned.

S.R.6.01.2.1. If a Loco Pilot realises, while on run that there is a rail fracture he shall bring his train to a stop immediately and protect the train in accordance with GR 6.03 and SRs there under, treating this as an obstruction. He shall then examine the track and proceed further only if he is personally satisfied that the track is safe for the passage of the train. In case it is found that the track is not safe for the passage of the train, he shall arrange to advise the Station Master and the SCOR..

ATTENTION S&T staff

Appendix XI, II-6-ii. I- Do's for S&T staff.

21. . Check intactness of bond wire, jumper wire connections and secure long jumper connections firmly with sleepers.
22. Report to PWI or IOW for defective water pipes and leakage of hydrants/water columns on track circuited portions.

ATTENTION Engineering

S.R.15.25.12. General:-

(3) Care over curves and cuttings:- Great care shall be exercised while approaching curves or cuttings and at such places where the view ahead is not clear. The person in-charge of Motor Trolley shall apprehend danger in such places and reduce the speed of Motor Trolley efficiently to stop short of any obstructions.