

Accident-I

Rear-Collision of Goods Train No. N/NPSB with Goods Train No. BOBRN/BRS, on the UP Line of Singhpur Station in Anuppur-Katni section of Bilaspur Division, South East Central Railway at about 06:40 hrs. on 19.04.2023.

I. Cause of the Accident

The accident occurred due the act of Signal Passing At Danger (SPAD) caused by complete disregard to the extant rule.

II. Remarks and Recommendations

Remarks and recommendations made by commissioner of Railway Safety and action taken by railways are given below-

S.No.	Recommendation	Action Taken by Railways
1	The occurrence of as many as 120 cases of Signal Passing At Danger from 01.04.2020 to 30.06.2023 highlights the limitations of preventive measures taken by the Zonal Railways (counselling of LP/ALP, safety drives, etc.). The accident underscores the need for an automatic train protection system that can prevent collisions.	<ol style="list-style-type: none">1. Indian Railways has already started deploying indigenously developed Automatic Train Protection (ATP) system i.e. KAVACH.2. The first field trials on the passenger trains were started in February 2016. Based on the experience so gained and Independent Safety Assessment of the system by a 3rd party (Independent Safety Assessor: ISA) three firms were approved in 2018-19, for supply of KAVACH.3. Subsequently KAVACH was adopted as National ATP system in July 2020.4. KAVACH has so far been deployed on 1465 Route Kms and 139 Locomotives (Including EMU rakes) over South Central Railway.5. KAVACH Tenders have been awarded for Delhi-Howrah and Delhi-Mumbai Routes

		(approximately 3000 Route kms.) and work is in progress.
2	Control Office Application should get an input from Crew Management System about crew-sign-on particulars so that a section controller is aware of crew working for longer hours.	In the Control Office Application, Train Name, Crew Name, Crew Type, Sign On time, Crew duty hours, Crew HQ, Sign ON Station & CMS user ID of crew due for change & crew about to change is visible to the controller in real time. The window is called "Alert Crew Duty Hours". Screen shots of COA window are enclosed as Annexure-II. Further a JPO framed by Electrical & Operating departments of SECR has been issued on 06.04.2023 (Copy enclosed as Annexure-III) for conveying train ordering through CMS/FOIS to the lobbies. This will enable the Crew Controller at lobbies, TLC at Control to monitor Crew long hours effectively. They in turn will inform Section Controller/Dy Controller of long hours for better crew management/planning .
3	The unabated cases of SPAD highlight the importance of Isolation in signaling. The recent changes in the provisions of GR 5.16, and GR 3.47 which allows non-isolated shunting, and non-isolated simultaneous movements ahead of a train being received on a main line do not bode well for IR, and should be reviewed.	This issue has already been reviewed by Board in response to reference received from CCRS office under Letter No. M-15013/01/2017-18-TW dated 04.09.2023. The reply of the reference has been sent under Boards Letter No 2021/safety (A&R)/19/49 dated 16.10.23. (Copy enclosed as Annexure-IV)
4	There is an urgent need for robust Crew management in SECR filling of vacancies, timely crew-reviews, and monitoring of crew working longer hours should be done in earnest.	Chapter V of ACTM, para 30504 details the duties of TLC. The duties include: <ul style="list-style-type: none"> to watch the detention to electric locos as well as electrical running staff in yards and sections and take remedial action in coordination with the Traffic Controller;

		<ul style="list-style-type: none">• to watch train operation in order to avoid excessive waiting duty for running staff and take remedial action, as required in coordination with the Traffic Controller;• to study cases of running staff performing more than the prescribed hours of duty at a stretch and take necessary remedial action to avoid recurrence; <p>Further to the above, necessary steps have been taken over SECR to strengthen Crew Management. Some of the major steps taken are as follows:</p> <ol style="list-style-type: none">1. Crew review for the year 2022-23 has been sanctioned on 14.06.23. Indent for 3937 staff has been placed on the portal.2. Stipulated rest to Loco Pilots and Assistant Loco Pilots at Head Quarter and outstations is being monitored.3. No LP/ALP is booked in Breach of Rest either from HQ or from outstations (Running Rooms).4. During 2022-23 & 2023-24, 623 & 180 (Total-803) no. of ALPs have been promoted to Loco Pilot Goods. Also, 1309 ALPs were inducted during 2022-23.5. New Lobbies have been set up at Uslapur & Pendra Stations in BSP-SDL Section to relieve crew before exceeding the stipulated working hours.
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5	<p>The long-haul operation in SECR should be reviewed; an operation without a proper JSC and without longer loops in the stations does not seem proper.</p>	<p>At present long haul operation is being done as per Board's guidelines issued under letter No-2022/TT-1/27/1 dated 04.08.2023. (Copy enclosed as Annexure-V)</p> <p>Following stations on SECR have long Loop Lines:</p> <p>a) Hathbandh station of Raipur Division in Bilaspur Raipur section.</p> <p>b) Koka Station of Nagpur Division in Gondia Nagpur section.</p> <p>Long Loops are in the pipeline at the Following stations of SECR:</p> <p>a) Madarwani Station &</p> <p>b) Kirodimalnagar Station of Bilaspur Division.</p> <p>Long loops are not feasible at many yards due to grade constraints especially over Zonal Railways such as SECR, SER, WCR, ECOR etc. Long hauls are being formed and run successfully on running lines (2nd/3rd/4th lines) on many Zonal Railways such as SECR, SER, WCR, ECOR etc.</p> <p>It is pertinent to mention that Long Hauls are actually a means to reduce congestion as it facilitates more number of trains on available paths, which not only improves throughput but also reduces congestion. This helps in improving speed and ultimately in reducing long hours cases.</p>

Accident-II

Incident of Entanglement of Pantograph of Locomotive No. WAP7-37336/GZB of Train No. 12801 (Puri-New Delhi Purushottam Express) near Parsabad Station in Gomoh-Gaya Section of Dhanbad Division of East Central Railway at about 12:05 hrs. on 11.11.2023.

I. Cause of the Accident

Due to sudden snapping of out-of-run contact wire near OHE Mast No. 366/13. The cause of the accident is attributed to and classified as - "Failure of Equipment (OHE)".

II. Remarks and Recommendations

Remarks and recommendations made by commissioner of Railway Safety and action taken by railways are given below-

S.No.	Recommendation	Action Taken by Railways
1	As part of regular maintenance, a Flaw Detection Mechanism (as is being done for Rails by Ultrasonic Flaw Detectors) may be adopted for periodic checking of the OHE wires.	<ul style="list-style-type: none">i. CCR rod of 19.6 mm dia is manufactured by hot rolling of cast bar of higher size (3800 sqmm). This eliminates the possibility of casting defects such as pin hole/blow holes due to size reduction. Further, to check any residual defects, the rod is passed through eddy current test continuously during final stage of manufacturing of CCR Rod. If any defects are found during eddy current testing stage checking, the CCR rod is rejected.ii. In addition, the CCR Rod at Contact wire manufacturer premise is checked at Input Stage using USFD for detection of any blow hole/pin hole.iii. Adopting USFD technique for checking of contact wire is not feasible as long duration power block shall be required

		<p>for effective flaw detection. Further, detection of all defects of this type may still not be technically possible being close to the termination.</p> <p>iv. In this regard, RDSO has been advised to examine for further options.</p>
2	<p>Dedicated Field Level and Officer Level supervision is required during execution of technical works associated with modification of the existing system of working of the Railway. Installation/maintenance of OHE wires may be closely monitored to avoid any improper bending at end cone of insulators which might lead to damage of wire/development of stress concentration in the long run.</p>	<p>There has been a practice in Railways to depute Railway Official for supervision/inspection during execution of technical works associated with modification of the existing system (TRD). Monitoring of OHE works is being undertaken at the time of execution.</p> <p>Accordingly, advisory has been issued to Railways vide letter dtd. 28.03.2024.</p>
3	<p>Voice-Logger equipment should be installed in the Locomotive Cab to capture the conversation of the Locomotive Crew before, during & after any Accident/Incident and networked to Central Control/Data Logger System from where it can be retrieved.</p>	<p>CRIS has been entrusted for provisioning of Crew Voice Video Recording system (CVVRS) device on locomotives for recording the voice of loco crew along with video of cab, including the cameras on the roof for recording of pantograph related events.</p>
4	<p>A camera may be installed to capture the Pantograph behavior with respect to OHE which may be networked to the Central Control Equipment.</p>	
5	<p>Railway may examine the reduction in Pantograph lowering time. Auto Drop</p>	<p>i. Currently approx. 3000 HRPT on Locos are with ADD & ORD features.</p>

	<p>Device (ADD) was bypassed in the instant Locomotive with High Rise Pantograph. This should be kept in working condition to automatically lower the Pantograph in case of any abnormality in its behavior to prevent its damage and subsequent consequences. Even for other type of Locomotives also, this system should be adopted.</p>	<p>However, there have been many failures due to malfunctioning of ADD & its associated components which has affected the reliability of locos, because of which many sheds have isolated these features. Subsequently based on discussion with Zonal Railways, these features were deleted in revised specification dated 27.09.2022.</p> <p>ii. With regard to requirement of ADD system in the pantographs, the reference standard relevant clause no 8.1 of EN:50367-2020 is as under and the requirement of ADD system is mandated for speed more than 160 km/h.</p> <p>a) Traction units designed for a speed higher than 160 km/h shall be equipped with an automatic dropping device in accordance with EN 50206-1 2010, 4.8.</p> <p>b) Traction units configured as trains that require more than one pantograph raised in operation and of maximum design speed higher than 120 km/h shall be equipped with automatic dropping devices in accordance with EN 50206-1:2010, 4.8</p>
6	<p>Railway should ensure that their officials reach the site Accident/Incident at the</p>	<p>Railway Officials reach the accident/incident site as soon as possible by the first</p>

	<p>earliest by quickest means available.</p>	<p>available means of transport with the medical teams, ambulance services, accident relief medical equipment van including first aid boxes, to give prompt relief to passengers injured railway accidents.</p> <p>In this regard, a fresh advisory has been issued to Railways vide letter dtd. 28.03.2024.</p>
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