

SAFETY RECOMMENDATIONS ISSUED IN 2021-2022

Runaway and subsequent derailment of Trenord passenger train 10776, at Carnate Station, on 19/08/2020 (IDENTIFIER ERAIL IT-6349)

The recommendations have been drawn up according to the provisions of EU Regulation 2018/762 regarding the requirements of the Safety Management System (in brackets the points of the Regulation)

Recommendation no. IT-6349-01

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety verify that the Trenord railway undertaking, within its own context, has implemented all operations aimed at identifying serious risks to railway safety (*Att. I, p. 1.1.b Reg.*) and the appropriate mitigating measures, bearing in mind the movement of vehicles in the various line and operating conditions (*Att. I, p. 5.1.3. Reg.*), including parking, in relation to the specific nature of the rolling stock in use.

Recommendation no. IT-6349-02

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety, as part of its supervision processes, verify that Trenord, as the entity responsible for maintenance and, more generally, the other railway undertakings, with the involvement of senior management, have provided for and complied with the correct and effective application of the Safety Management System in the training process for personnel assigned to train driving, maintenance and train crew, also through comprehensive provisions concerning the promotion of a positive safety culture (*Att. I, p. 2.1.1.g-h-i-j, p. 2.2.2.c-d, p. 4.3. Reg.*).

Recommendation no. IT-6349-03

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety verify that railway undertakings have procedures within their Safety Management System to ensure an adequate level of reliability, traceability and monitoring of the processes of education, training and competence maintenance of drivers, train conductors and maintainers (*Att. I, p. 2.3. and 4.2. Reg.*).

Recommendation no. IT-6349-04

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety request RFI and the other infrastructure managers to verify the provisions actually adopted for train stabling in locations with sloping levels, providing, where possible, for track independence, also in view of the expected stabling times (*Att. II, p. 3.1.1.1.a, p. 5.1.3.a Reg.*).

Recommendation no. IT-6349-05

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety verify that railway undertakings have a systematic method that includes the use of recognised processes from the human and organisational factors field as part of their Safety Management System (*Att. I, p. 4.6. Reg.*).

Recommendation no. IT-6349-06

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety verify that infrastructure managers and railway undertakings deploy appropriate communication and information activities, related to accident and incident investigations, for their personnel, in order to adequately assess the evidences, to review the risk assessment and to draw the appropriate lessons, with the aim of improving safety by taking corrective and ameliorative measures (*Att. I and II, p. 7.1.3. Reg.*).

Incorrect routing of part of Trenord 2231 train, at PM Bivio Adda, Milano-Bergamo Line, on 21/03/2021 (IDENTIFIER ERAIL: IT-10072)

Recommendation no. IT-10072-01

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety request infrastructure managers and railway undertakings to further train their personnel in the area of communicating movement requirements for the management of degraded operations, in particular with regard to the clarity, unambiguousness and completeness of the order given by the Signaler.

Recommendation no. IT-10072-02

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety request railway undertakings to reiterate the need and consequently the obligation, on the part of the Driver and, where required, the Train Conductors, of the complete collation of the communication, highlighting its usefulness also for a better understanding and assimilation of the order given by the Traffic Controller.

Recommendation no. IT-10072-03

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety require railway undertakings to adopt a procedure that requires, where the participation of the Train Conductor is required, the reading and countersigning for acknowledgement by the latter of the M40 Telec form, containing the instructions given by the Signaler to the Driver.

Recommendation no. IT-10072-04

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety request railway undertakings to expand the use of driving simulator drills intended for Drivers, through the implementation of applications dedicated to the reproduction of degraded operations and their applicable requirements, also involving other potentially concerned personnel.

Recommendation no. IT-10072-05

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety ensure that railway undertakings can equip trains with forward-facing video cameras (SMT) and recording equipment to document the state of the sites and environmental conditions along the route. This recommendation is also extended to the ERA, in anticipation of possible changes to the LOC&PAS TSI to introduce such devices.

Recommendation no. IT-10072-06

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety request infrastructure managers and railway undertakings to monitor the behaviour of their safety personnel during the running of trains in degraded mode, ensuring that the results are tracked in order to assess the clarity of the instructions received, the ease of carrying out operations, and any difficulties encountered, so that any corrective or improvement actions can be taken to guarantee the safety of traffic.

Recommendation no. IT-10072-07

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety request RFI and the railway undertakings, within the scope of their respective competences, to ensure the correct application of the Provisions for Remote Control Operations, with reference to art. 24 and 24 *bis*, and in particular the last paragraph of art. 24 *bis*, whereby it is necessary to ascertain which operating methods are actually adopted by the Signalers, to verify their compliance with the Provisions and, if necessary, to adopt a single, detailed, shared

operating method. This verification shall in particular clarify the behaviour to be followed in the event of the failure to switch on the movement authorisation signal after the transmission of the requirements provided for by art. 24 *bis* by means of the M40 Telec form, i.e., whether it is necessary to proceed by means of a further supplementary M40 Telec or with a new M40 Telec that cancels and fully replaces the previous one.

Collision between Mercitalia Rail train 64457 and construction vehicle on the Firenze Campo Marte – Firenze Statuto section of the Firenze Rifredi - Attigliano Line on 07/12/2018

Recommendation no. 1

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety ensure that railway infrastructure managers implement the interruption of traffic on all adjacent tracks in the event of maintenance work of any degree or duration that must be carried out at specific points of the conventional railway network (tunnels, viaducts, etc.), in all cases where such an interruption is provided for in the Railway Traffic Regulations; or verify, in cases where the conditions exist for the maintenance of traffic on the track adjacent to the interrupted track, the effectiveness of the measures adopted in implementation of 4. 32b and 22.2 of the Railway Traffic Regulations (ANSF Decree 4/2012 of 9.8.2012), reinforcing them if necessary.

Recommendation no. 2

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety ensure that railway infrastructure managers:

- verify the effectiveness of the controls on the contractors carrying out works on the railway infrastructure by ensuring the presence on each vehicle of personnel with the necessary qualifications and adequate training in railway traffic;
- provide evidence of the effectiveness of the tools for checking the correct filling in, in all their parts (including the signing) and within the prescribed deadlines, of all the forms necessary for the granting of the interruption and the restarting of operations;
- verify the consistency of documents, relating to the worksite, exchanged between the manager and contractors, in the event of possible interference with railway traffic;
- verify the effectiveness of the training of their own personnel and that of the contractors, on the subject of site protection, with regard to the protections and behaviour to be adopted when working on an interrupted track to avoid interfering with train traffic on the adjacent track in operation or alternatively to interrupt the latter in the event of a possible need.

Derailment of Trenitalia passenger train 9595, HS/HC Milano – Bologna Line, at PM Livagra, on 06/02/2020 (IDENTIFIER ERAIL: IT-6182)

Recommendation no. 1

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety request railway infrastructure managers to revise the activities foreseen in the Quality Control Plan (PCQ) of the hydraulic switch actuators:

- introducing, instead of a simple visual inspection of the wiring, a functional test that verifies the correct input-output connection at the different positions of the actuator contact shaft;
- verifying the completeness of the "Complete actuator test" and "Complete actuator final functional test" phases.

Recommendation no. 2

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety require railway infrastructure managers to adapt the reference documentation and related training activities so that it is clearly stated that all maintenance activities on switches, which involve work on the relevant command and control circuits, must always conclude with a verification of concordance between the physical configuration of the switch on the yard and the remotely controlled one, proven by visual documentation of the evidence.

Recommendation no. 3

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety require railway infrastructure managers to adapt the reference documentation and related training activities so that the return to operation of a switch, or any other safety device, at the end of any maintenance activity on it, in cases where anomalous behaviour of the devices is manifested, is carried out by those involved, always drawing inspiration from the precautionary principle, i.e. adopting the most restrictive measure to protect safety.

Recommendation no. 4

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety require railway infrastructure managers to reorganise their internal procedures for the use of switch restraints by maintenance staff.

Recommendation no. 5

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety request the railway infrastructure managers to initiate a process aimed at the design, realisation and implementation of hydraulic switches with a control circuit capable of signalling the position of each actuator constituting the switch, as well as the adaptation of the ACC's operating logic aimed at appropriately managing the control parameters that govern the operation of the switch.

Break-up rail goods train no. 58006, near Barletta, on the Trani – Barletta Route, on 04.01.2022.

Recommendation no. 1

It is recommended that the Agency for Railway, Road Infrastructure and Motorway Safety ensure that GTS Rail and other railway undertakings, when purchasing new wagons, verify, or have verified by ECM, the presence and correct installation of the hook-fastening attachments to the pulling rod, including their restraint systems (bolts and plate) and keep documentary evidence of this.

Recommendation n. 02

It is recommended that the Agency for Railway, Road Infrastructure and Motorway Safety ensure that manufacturers in charge of the manufacture and construction of vehicles, when assembling the traction vehicles, ensure that the hook attachments are correctly installed to the pulling rod, included the restraint systems (bolts and plate).

Recommendation n. 03

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety (ANSFISA) reiterate these recommendations in the appropriate international fora.

Derailment of train 4132 of the EAV railway undertaking on the Line Naples – Torre Annunziata Poggiomarino, at the Pompei Santuario Station, on 07.11.2022.

Recommendation no. 1

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety ensure that infrastructure managers comply with and monitor the implementation of the activities envisaged in the preventive maintenance plans for facilities and equipment, assessing their effectiveness and adequacy in terms of the frequency of maintenance activities, also in relation to the age of the facilities and equipment being maintained.

Recommendation no. 2

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety ensure that infrastructure managers and railway undertakings carry out an audit and a possible reassessment of working hours or remodelling of the service, in relation to the increased workloads resulting from the deterioration of the infrastructure due to the occurrence of breakdowns.

Recommendation no. 3

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety ensure that the RU and the EAV IM proceed as soon as possible with a redrafting of their regulations inspired by the principles of clarity, precision, uniformity, simplicity and completeness, especially with reference to the safety procedures to be adopted to guarantee the operation of traffic in the event of infrastructure degradation due to the occurrence of breakdowns.

Recommendation no. 4

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety consider the advisability of requesting the RU and the EAV IM to issue an internal measure clearly highlighting the importance of full compliance with the regulatory provisions for safety purposes, accompanied by an appropriate training action for the operators involved, especially with reference to the safety procedures to be adopted to ensure the operation of traffic in the event of infrastructure degradation due to the occurrence of breakdowns.

Recommendation no. 5

It is recommended that the National Agency for Railway, Road Infrastructure and Motorway Safety ensure that the EAV IM takes measures to inhibit the access of unauthorised third parties to the working environment of the Local Manager.