**HU-6154**

**2019-0806-5 Dunai Finomító station (Railway accident / Derailment)**

### Overview of the accident

On 23 July 2019, at Dunai Finomító station, the two leading wagons of the freight train № 48238-1 derailed on the switch № 28 while the train was leaving the station on Track III. The wagon situated right after the locomotive derailed with one axle, the second wagon derailed with 4 axles, the train came apart and stopped. The second wheel of the third wagon (according to heading of the train) on the right hand side stopped on the top of a drag shoe left on the rail.

The drag shoe was not removed by the employee who coupled the locomotive and the leading wagon, and it was not detected by the person who carried out the braking test and train inspection subsequently.

The IC found that the direct cause of the derailment had been a drag shoe left under a train.

The IC attributed the occurrence to human factors on the parts of the locomotive driver and the wagon examiner.

# CONCLUSIONS

## Direct causes

The factors which had direct effect on the occurrence were as follows:

1. the train started with a drag shoe left under the leading wagon, and the drag shoe got stuck in the crossing part of the switch, and the two leading wagons of the train derailed on it.

## Indirect causes

Those findings relating to competences, procedures and maintenance which are related to the factors enumerated above:

1. the wagon examiner failed to check with the traffic manager the number, markings and locations of the drag shoes used with the train,
2. after connection of the rolling stock, the locomotive driver did not look for and did not remove the drag shoe placed under the leading wagon, because he did not think it was his task to remove it,
3. the wagon examiner did not realise the drag shoe under the leading wagon, so he only removed the shoe he had found under the tail wagon,
4. due to a practice developed at the station, the drag shoes were not returned to the traffic manager’s supervision (i.e. their storage) after use therefore they were not monitored anymore, so the traffic manager could not make sure that all the drag shoes had been removed from under the train,
5. such a practice had developed at the station in the area of returning the drag shoes which deviated from the relevant instruction and compromised some of the safety guarantees integrated in the relevant process, and the management audits and other inspections failed to reveal it.

## Root causes

Causes that are distant in time and space from one another but which are related to system operation within the regulatory environment and in the safety management system:

1. the Station Instructions contained no rule for the case, i.e. what to do if the drag shoe is removed from under the train by the wagon examiner or the locomotive driver who carries out train coupling.

## Other risk factors

Factors which cannot be related to the occurrence but increase risk:

## Lessons learnt

The Station Instructions do not cover the situations where, typically in the case of preparation of trains of smaller railway undertakings, the drag shoes are removed by the locomotive driver carrying out the train coupling or by the wagon examiner carrying out the braking test.

Either the application or the removal of drag shoes from under the rolling stock may be carried out by different employees at various points of time therefore one may easily think erroneously that the other responsible person has surely carried it out already. Accordingly, it is very important for the traffic manager to have adequate information on the drag shoes applied on the given track before, and on the removal thereof, and that he can compare the numbers of the drag shoes issued by him and returned to him, thus making sure that all drag shoes have been removed from under the train which is to be authorised to depart.

# ACTIONS TAKEN

MÁV Zrt. Dunai Finomító station has modified their Station Instructions. They have modified the process of issue and returning of drag shoes to make it more specific. The traffic manager records (in the track occupancy log) the method of securing the vehicles and trains staying on a track against brake-away, the application of manual or stop brakes, as well as the location, number and serial number of the drag shoes applied on the tracks.