

## **EXTENDED SUMMARY IN ENGLISH**

A freight train, RushRail 69316, came to a standstill in a 10 promille upslope between Deje and Molkom, on the single track line between Kil and Daglösen. Train weight, the 185-class ("Traxx") locomotive included, was 2218 tonnes. The situation occurred around 05.00 hrs on 30 September 2016. The driver requested assistance from Daglösen.

A multiple unit of two Rc3 locomotives (from another RR freight train, 69219) was dispatched from Daglösen to assist the freight train 69316.

When the assisting locomotives approached the stationary 69316, the speed was not low enough. Despite emergency braking, the assisting locomotives hit the locomotive of 69316 with a speed in excess of 50 km/h. Severe material damage ensued, and the driver of the multiple unit suffered bodily injuries. The driver of 69316 was at the time not on the locomotive and escaped without injuries.

At the time, the line Daglösen–Kil was under manual traffic control, with local train dispatchers at the attended stations (Daglösen and Kil, in this case). Some 16 km from Kil is the railway stop Deje and a further 16 km away is the unattended station Molkom. From Molkom to Daglösen is another 30 km. An unattended station can only exist on a line with manual traffic control. It is unmanned, and its signals are set to show "Clear" in both directions. For traffic control purposes, it is regarded as part of the line between the attended stations.

When the request for assistance was made, the driver of 69316 gave the position of the train as "between Kil and Daglösen", which is correct in a case when the position is not known in more detail. The driver of the assisting locomotives was given the information that 69316 was between Daglösen and Kil, before the vehicles were allowed to leave Daglösen. According to the rules for this type of transport (travelling along a track where an obstacle may exist), the speed may be 40 km/h, but must be kept low enough to allow the vehicles to be stopped within the stretch of track that can be seen, at any time; this restriction is called "sighting speed" in Swedish terminology. The distance given (Daglösen–Kil) is considerable, about 62 km.

The two drivers had however taken telephone contact and the driver of the assisting locomotives had gathered more detailed information about the location of 69316, showing that the train was standing between Molkom and Kil.

The driver of the assisting locomotives had planned to adjust speed to a safe level (sighting speed) after passing Molkom, but the decrease in speed was not applied at the time the stopped train came into view and a collision occurred.

The direct cause of the collision was that the speed of the assisting vehicle was not adjusted to the current situation.

Contributing factors that have been identified are the driver's wish to complete this unforeseen work task without unnecessary delay, and the driver's restricted experience with the situation, i.e. the driver had had limited training in how to perform the procedure and how to apply the rules that govern this activity. A possible contributing factor is also the exchange of information between the involved drivers, giving more details about the position of the train to be assisted; this may have influenced the driver's perception of the obstacle clearance.

## **Safety recommendations**

### **The Swedish Transport Administration is recommended to:**

- evaluate, if the upper speed limit that is associated with the safety precaution “sighting speed”, should be one of the parameters considered when the automatic train protection system is adjusted, before a “movement with assisting locomotives” is allowed to begin. (*RJ 2017:04 R1*)