

Extract from the final report of accident occurred on 27 July 2008 in Stjørdal on the Nordland line in Norway

On Sunday, 27 July 2008, train 449 was travelling northbound on the Nordland line from Trondheim to Steinkjer with 66 passengers and a crew of 3 on board. Approximately 500 metres north of Stjørdal station, at milepost 37.7 km, a fire started in the train's motor carriage (BM).

As the train pulled out of Stjørdal station, the locomotive driver made several observations of an electrical engine fault warning of magnetisation failure. He contacted NSB AS's operational centre (DROPS) and informed about the fault. At approximately the same time, the conductor entered the locomotive driver's cabin and informed him that there was a burnt smell in the motor carriage.

The locomotive driver checked his mirrors and discovered smoke emanating from one side of the train. He stopped the train and disconnected the train's heating system, stopped the engines and switched off the batteries (cutting all the train's power systems). At 20.01, the locomotive driver called the emergency telephone number 110, which connected him to Namsos fire and chimney sweep service and informed them about the fire. The locomotive driver then informed Trondheim traffic control centre about the incident. Trondheim traffic control centre did not inform the fire service about the fire.

Maintenance had been carried out on the train on 7 April 2008. In that connection, the generator had been replaced. The generator is covered by an exchange service scheme, and had undergone comprehensive examination and repair.

THE ACCIDENT INVESTIGATION BOARD NORWAY'S ASSESSMENTS

One of the underlying causes of the fire appears to be omissions in connection with the final inspection following examination and repair of the generator. The examination and repair of generators is carried out by an independent company. That the cable lugs were loose may be because they were of the wrong type, because they were incorrectly installed or because the nuts in the junction box had been inadequately tightened after the replacement of components. These are factors that, in the view of the Accident Investigation Board Norway (AIBN), must have been described in the operating company's safety management system, and which would therefore have been discovered during an adequate final inspection.

In July 2007, AIBN published RW report 2007/08, the subject of which was a freight train on which the cargo shifted and caused damage to the cantilever and overhead contact wire at Ingedal station on the Østfold line. In this case, loading was carried out by a company other than the operating company. It appeared that there had been inadequate inspection after loading. Among other things, AIBN submitted a safety recommendation concerning deficient communication of the operating company's safety management system to its subsidiaries and sub suppliers.

The potential of a fire to cause injury/damage to people and equipment is considerable. Notification of a train fire must therefore be carried out in accordance with adopted procedures, and the information conveyed to the rescue services from the incident site must be correct. A

review of the call log between the traffic controller and the locomotive driver shows that there was lack of clarity with respect to the location of the train and who should inform the fire service. Stjørdal fire and chimney sweep service's notification card also shows that there was uncertainty about the location of the train. AIBN is aware that the Norwegian Union of Locomotive Drivers, among others, has addressed this issue and has proposed system solutions that more accurately pinpoint the location of the train. It is also important that traffic operators and the Norwegian National Rail Administration use unambiguous language for notification purposes. Endeavours should be made to conduct a joint review of this accident, in order to improve the notification procedures, if possible.

In the event of fire and smoke development, the locomotive driver must always notify the traffic controller, who in turn will notify the fire and rescue services. In this case, the locomotive driver chose to report the fire to the fire service first, before notifying the traffic controller.

Once the traffic controller has been notified by a locomotive driver of a fire or the development of smoke, he/she must always report the fire by calling the emergency telephone number 110, even if the locomotive driver already has done so. The traffic controller is responsible for the stretch of line in question and must always be the key point of contact for the parties involved. It is the traffic controller who maintains an overview of other rail traffic along the section of track and of whether or not the power has been disconnected, who grants permission for traffic to proceed along the track and who requisitions necessary alternative, track-going transport when required. When the local railway inspector arrives at the incident site, he/she will have the role of the Norwegian National Rail Administration's local, on-site representative. If the traffic controller had also notified the fire service by calling the emergency telephone number 110, the elements of uncertainty that partially surrounding this part of the incident could have been avoided.

In December 2007, AIBN published RW report 2007/13, the subject of which was a serious rail incident at Molykkja station on the Dovre line. In this case, the evacuation of passengers was initiated before the stretch of line could be cordoned off and before a go-ahead from the traffic controller to move along the track was obtained. This was a result of communication between the train, the traffic controller and NSB DROPS not following established procedures and thus leading to misunderstandings and incorrect actions. It is therefore crucial that all information provided is correct and that communication follows the proper channels. One of the recommendations in that report was the establishment of good procedures to ensure that the correct channels of communication are always used.

IMPLEMENTED MEASURES

AIBN has been informed that NSB AS has implemented measures to prevent the occurrence of faults in the generator connections. The measures include both receiving inspection and final inspection of examined and repaired generators, in addition to the securing connections and cable fastenings. The company has also carried out inspection of the generator junction boxes in all type 92 trains.

CONCLUSION

During the investigation, AIBN discovered a number of unsatisfactory conditions of both a technical and a systemic nature. These include deficiencies relating to the final inspection following the examination and maintenance of generators, uncertainty about the location of the train and lack of clarity when notifying the fire service of the train's whereabouts.

SAFETY RECOMMENDATIONS

The investigation of this railway accident has identified one area in which the Accident Investigation Board Norway deems it necessary to propose a safety recommendation for the purpose of improving railway safety.

Safety recommendation RW no. 2009/T12

During a fire on train 449 near Stjørdal station, the fire service and the other rescue services were not correctly informed about the location of the train, so that it was uncertain where the train had actually stopped.

The Accident Investigation Board Norway recommends that the Norwegian Railway Inspectorate request the Norwegian National Railway Administration and traffic operators to improve notification procedures so that they are adhered to, and so that the requisite and correct information is communicated between the train and traffic control centre.