

Extract from the investigation report RJ 2009:01 on a near-collision occurred on 07/08/2007

Summary

On Tuesday, 7 August 2007 a near-collision occurred between service trains 90161 and 52517 at Stockholm Central Station when train 90161 passed signal Cst 566 which showed "stop". Train 52517 was on its way from Sundbyberg to Stockholm Central Station on track D1 at the same time as train 90161 was on its way, in the opposite direction, from Stockholm Central Station to Hagalund on track C1.

Train 52517 had "go" in the signals to Stockholm Central Station. At Norra Bantorget the tracks of the two trains crossed, which means that 90161 had "stop" at signal Cst 566 until train 90161 had passed that point. In the previous signal, Cst 456, the advance signal had been given to train 90161 that the next signal, Cst 566, showed stop.

The confusing and information-rich environment, in combination with the driver's lack of experience in driving on C1, contributed to the fact that signals 456 and 566 were not noticed and that signal 566 was passed while showing "stop". In addition to this, track C1 was not equipped with ATC, which means that the driver did not receive the information in the driver's cab that signal 566 showed "stop". Since track C1 was not ATC-enabled, the train's ATC equipment failed to kick in when signal 566 was about to be passed.

Both drivers noticed that they were about to cross one another's paths and stopped the trains about 22 metres from one another.

Causes

The direct cause of the near-accident was that train 90161 passed main dwarf signal Cst 566 which showed "stop".

The underlying reasons were that the driver did not have sufficiently good knowledge of the special conditions in place at Stockholm Central Station, in combination with the confusing and information-rich nature of the surrounding environment.

Track C1 was not ATC-enabled, which means that the driver had no signal monitoring via the vehicle's ATC equipment to support the driving of the train.

Main dwarf signal Cst 456 with the advance notification "go, 40, caution" was not noticed, which meant that the driver was not prepared (as was the expectation) for the fact that the next signal showed "stop".

Recommendations

The Swedish Accident Investigation Board (SHK) notes that the previous recommendations that were submitted in report RJ 2005:02 have not yet resulted in any major measures or changes, and in part submits the same recommendations as in the previous report.

The Swedish Transport Agency is recommended to take steps to ensure that:

- the Swedish Rail Administration expedites measures to equip the so-called "ATC islands" with ATC (RJ 2005:01 R1);
- the Swedish Rail Administration, while waiting for the above recommendation to be carried out, takes measures to make it easier for drivers etc. to notice the various different signal images in main dwarf signals (RJ 2005:01 R2);
- the line descriptions in the railway companies' line guides be revised to make them more user-friendly (RJ 2009:01 R1);
- clearer requirements regarding line knowledge are introduced for complex stations such as Stockholm Central Station (RJ 2009:01 R2);
- the Swedish Rail Administration reviews the design of information environments so that they are adjusted to better meet human requirements (RJ 2009:01 R3).