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Security

NTSB to look at possible computer role in D.C. crash

D.C. Metrorail computers programmed to prevent rear-end train accidents

Patrick Thibodeau June 23, 2009 (Computerworld)

National Transportation Safety Board officials today said that the agency's investigators will examine whether computer systems, sensors or cell phones played a role in yesterday's Washington, D.C., Metrorail crash that killed nine people.

Experts note that there are also several other possible causes of the crash of one Washington Metropolitan Area Transit Authority (WMATA) train into another in a rear-end collision of such force that one train literally climbed on top of the other. They could include track problems, mechanical failures and human error.

But the WMATA computer systems are likely to get significant attention from investigators because they were designed to prevent such rear-end accidents. The computer systems are constantly making decisions on train speed based on data from track-bed sensors that monitor train movements.

Kegan Kawano, a senior security consultant at Industrial Defender Inc., a provider of computerized infrastructure security systems in Foxboro, Mass., noted that NTSB investigators likely are trying to see if they can rule out possible causes, such as a misconfigured control system, a physical computer failure or a security breach.

Security breaches aren't unknown in transportation systems. Kawano said he's aware of 10 security incidents in transit systems since about 2003. For example, in 2007, a Polish teen allegedly derailed a train by hacking into a network. And in 2003, a widely disbursed worm affected systems used by rail hauler CSX Corp., causing the company to halt some passenger and freight service, he added.

Kawano did note that rail automation systems are so unique that they are hard to secure. "They are systems that rely on known technology but are put together in unique ways," he said.

At a press conference today, NTSB investigator Debbie Hersman noted that the agency will also look at the actions of onboard operators. "We don't know, at this point, whether the operator could have seen ahead of them in time to stop," she said.

The striking train included cars that are some 30 years old and ready for replacement, which raises the possibility that there was a mechanical failure. The NTSB said it also plans to examine cell phone and text messaging records of the operators, as well as signal systems and tracks.