



IronWood Technologies

Railroad Accident Reconstruction

Federal Railroad Administration

False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - Cause: Failed Equipment or Device - Track Resistor

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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29	8/22/1995	NS	CTC			8883	Resistor	Brandy Station, VA	N
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Train No. 342, northbound, passed signal 60.8 which was displaying CLEAR. Conductor and Engineer Trainee looked back and observed that southward signal 60.9 displayed APPROACH while their train was still occupying the 60.9 track circuit.

Investigation revealed that the Trakode bleeder resistor, design value of 12.5 ohms, had a resistance of 96 ohms. This was a change in the value of the resistor itself rather than a connection. This high resistance value prevented the resistor from properly acting as a bleeder. With this resistor in place, the 60.9 signal would occasionally display APPROACH when a shunt was placed about 1000 feet south of the signal. Once duplicated, it was evident that the 60.9 track relay would pick up on the negative side with each pulse of the CP relay on the south track. The track currents were found to be normal. The false proceed was not easy to reproduce; several northbound trains were observed without recurrence. Several variable factors were obviously involved in reproducing this incident, presumably train speed, train shunt and track conditions.

A proper value resistor was installed to alleviate this situation.

96	7/11/1996	NS	CTC			7025, CR6028	Resistor	Deal, VA	N
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At approximately 11:00 PM, Train No. 203 passed the southward signal at milepost 187.5 on a CLEAR indication. Looking back they noticed that the northward signal was displaying APPROACH while their train was still occupying the north track circuit. At approximately 11:40 PM, train No. 211 noticed the same problem.

Investigation revealed that the Trakode bleeder resistor, design value of 12.5 ohms, had a resistance of 500 ohms. This high resistance value prevented the resistor from properly acting as a bleeder. With shunt on the 187.6 track, the 187.6 signal would display an approach indication. The high resistance was traced to a film that had developed in the bonds between the carbon and the metal tabs on the ends of the cartridge type resistor. The resistor ends were cleaned, and the resistance dropped to 14 ohms. A shunt on the 187.6 track then was found to cause the proper restricting indication.

No. of Reports Shown in this Listing: 2