



IronWood Technologies

Railroad Accident Reconstruction

Federal Railroad Administration

False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - State of Rhode Island

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
Cause									
Narrative									

555	3/19/1996	AMTK		Remote		268	Cab Signals	Cranston, RI	N
-----	-----------	------	--	--------	--	-----	-------------	--------------	---

Failed Equipment or Device - Cab Signals

Train 177 with Eng 268 traveling west track two was lined to cross from track two to track one at Cranston Int. The 2W home signal was reported to display a MEDIUM CLEAR, and as the train (177) proceeded into the interlocking, the cab signal displayed APPROACH MEDIUM. As train 177 proceeded over the crossover to track one, the engineers on train 177 reported his cab signal upgraded to CAB SPEED. As a result of this report, Amtrak removed CAB SPEED cab signal from service on all engines operating between New Haven and Boston, and replaced the 100 Hz inverter used to produce 100 Hz for cab signals for westbound moves at Cranston. The inverter was suspected of drifting off frequency. On March 27, 1996, Amtrak re-enacted the two to one move at Cranston Int. using a test Eng 227 with CAB SPEED cab signal aspect cut in. We also re-installed the suspected defective 100 Hz inverter for this test. It was our determination from the test that the 100 Hz inverter had drifted to 89 Hz, and as this inverter is a square wave generator, there was also a significant level of the third harmonic, 267 Hz present in the same wave form. This equipment was tuned to receive 120 code at the 91-100 Hz frequency as well as the 250 Hz frequency and there were sufficient levels of both carriers to support the CAB SPEED aspect at the 120 code rate. The "Fifth Aspect" on-board equipment supporting the CAB SPEED cab aspects remains out of service as of this date and is being re-evaluated. This interim "Five Aspect" on-board equipment does not perform a final "alternating carrier" check as does the full Nine-Aspect cab signal equipment does. We will advise you of our corrective action and our intent to re-establish the interim CAB SPEED cab signal aspect to service.

No. of Reports Shown in this Listing: 1