

DEPARTMENT OF TRANSPORTATION  
FEDERAL RAILROAD ADMINISTRATION

REPORT FOR (month/year)  
July 1996

**FALSE PROCEED SIGNAL REPORT**

DATE  
August 8, 1996 (See letter of July 26, 1996 attached)

All railroads subject to Regulations of the Federal Railroad Administration shall submit a false signal report, original only, to the Federal Railroad Administration within five days after a false proceed occurs. If no false proceed occurs during any calendar month, a report showing "No Failures" must be filed within ten days after the end of the month.

REPORTING CARRIER (railroad & region or division)

National Railroad Passenger Corp.  
30th Street Station  
Third Floor - South Tower Box 41  
Philadelphia, PA 19104

MAIL TO

Mr. David R. Myers  
Administrator  
Federal Railroad Administration  
Scott Plaza Two - Suite 550  
Philadelphia, PA 19113

REPORTING OFFICER (signature/title)

*[Signature]*  
Assistant Chief Engineer  
Communications and Signals

A failure should not be counted more than one time in items 1, 2, 3 and 4; the failure should be classified under the basic system or appliance of which it forms an essential part. E.g.; assume grounds cause a block signal to indicate a false proceed causing corresponding indications of a cab signal system on each train approaching this point, such failures should be included in item 1, Block Systems.

The following abbreviations may be used in the report.

- |                                 |                        |
|---------------------------------|------------------------|
| RA - Automatic                  | EM - Electromechanical |
| AB - Automatic Block            | EP - Electropneumatic  |
| ACS - Automatic Cab Signal      | FP - False Proceed     |
| APB - Absolute Permissive Block | MB - Manual Block      |
| ATC - Automatic Train Control   | M - Mechanical         |
| ATS - Automatic Train Stop      | P - Pneumatic          |
| CL - Color Light                | PL - Position Light    |
| CPL - Color Position Light      | SA - Semiautomatic     |
| E - Electric                    | TC - Traffic Control   |

A false proceed failure is a failure of a system, device or appliance to indicate or function as intended which results in less restriction than intended.

TYPE OF SYSTEM	DATE	LOCOMOTIVE NUMBER	DEVICE THAT FAILED	LOCATION (city and state)
1. BLOCK SYSTEMS <input type="checkbox"/> AB <input type="checkbox"/> APB <input type="checkbox"/> TC				
2. INTERLOCKING <input type="checkbox"/> AUTOMATIC <input type="checkbox"/> REMOTE <input type="checkbox"/> MANUAL				
3. AUTOMATIC SYSTEMS <input type="checkbox"/> ATS <input type="checkbox"/> ATC <input checked="" type="checkbox"/> ACS	7/11/96 7/27/96	929. 925, 912, 923	Track Code	East of Harrison, NJ
4. OTHER (specify)				

NATURE AND CAUSE OF FAILURE/CORRECTIVE ACTION TAKEN

On July 11, 1996, Train No. 179, Engine 929, reported just prior to midnight that after passing signal W63 displaying "Approach" (cab signal conformed) and after the normal code change to "Restricting", the cab signal changed to "Approach Medium" several times while approaching a "Stop Signal" at "Swift". Testing was performed following this report as explained in our letter of July 26, 1996, attached. On July 27, 1996, three trains, Engines 925, 912 & 923, each reported a similar condition at the same location. Subsequent tests and conclusions are fully explained in our letter of August 8, 1996, attached.



August 8, 1996

Mr. David R. Meyers  
Administrator, FRA  
Scott Plaza Two - Suite 550  
Philadelphia, PA 19113

Dear Mr. Meyers:

On Saturday, July 27, 1996, at 8:09 A.M., a report was made to New York Central Control by Train 205, Engine 925, that cab signals were flipping from Restricting to Approach Medium and back to Restricting, while approaching the 3W Signal at Swift Interlocking in the Stop position. At 9:18 A.M., Train 195, with Engine 912, reported experiencing the same irregularity in cab signals. Train 204, with Engine 923, was instructed to report waysides and cab signals while approaching the 3W Signal at Swift Interlocking in the Stop position. He reported all proper, until approaching this signal, where his cab signals started bouncing between Approach Medium and Restricting.

This was the second occurrence involving this same scenario in which cab signals went up to Approach Medium while the 3W Signal at Swift was at Stop. Please find attached, the July 26, 1996 copy of our letter concerning the first incident on July 11, 1996. All tests performed at that time disclosed no irregularities.

C&S personnel arrived on the scene on July 27, while the cab signals were in the failure mode as described by the Engineers of the above-stated trains. Investigation revealed that intermittent removal of steady energy at the W70 Signal location from the 2E1 Track Circuit was caused by the existing circuit design. This produced pulses from W70, eastward, when the code change went into effect on the approach of a train. These pulses were accepted by the locomotive cab signal equipment on the above stated trains, in a manner that caused cycling between Approach Medium and Restricting cab signals.

C&S management and supervision became involved and determined, by performing a revision of the track circuit design, that these unwanted pulses could be eliminated. This revision was performed on the morning of July 27, 1996.

A re-enactment was scheduled and held in the early morning of August 6, in which the 929 AEM7 Locomotive was used to re-create the code failure when the track circuitry was restored to its original design. Amtrak management and C&S employees, along with FRA representatives were on hand. It was proven that the intermittent track circuit pulse produced the cab signal irregularities. Chart recorders were used to get records of what was occurring in this situation. The 929 was downloaded and the tape will be part of this occurrence file. The circuitry was restored to the revision approved network and put back in normal service.

D. R. Meyers  
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During the re-enactment, the false display of the Approach Medium aspect was clearly demonstrated to be only momentary, of approximately one-half second duration, and recurring at a cyclic rate with the display of Restricting for a minimum of two seconds between each one-half second pick-up of Approach Medium. While this condition severely undermined our engineer's confidence in the cab signal system, and is therefore highly undesirable, it did not constitute a dangerous condition such that any engineer would actually accept the momentary false display and try to exceed restricted speed, nor would he have been able to exceed 20 mph, as the speed control continued to limit his speed.

Due to the nature of this condition, there has been some confusion as to whether an actual false proceed report should be filed. However, since the one-half second display was just barely long enough to require an acknowledgment, I am attaching a false proceed report on the prescribed form. Please consider this as a follow-up to our original letter of July 26, 1996, which was filed within fifteen days of the initial occurrence.

If we can be of any assistance concerning any files or records involved with the above, please contact my office at 215-349-1028.

Sincerely,



Assistant Chief Engineer C&S