

Region 2

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FALSE PROCEED SIGNAL REPORT

REPORT FOR (month/year)

March 1996

DATE

March 29, 1996

REPORTING CARRIER (railroad & region or division)

Norfolk Southern Corporation

Division - Virginia

REPORTING OFFICER (name and title)

Chief Eng. C&S - East

Communications & Signal Dept.

All railroads subject to Regulations of the Federal Railroad Administration shall submit a false proceed 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.

Copies of this form will be furnished upon request to the Department of Transportation, Federal Railroad Administration, Office of Safety, Washington, D.C. 20590

MAIL TO

Federal Railroad Admin.
Suite 440, North Tower
1720 Peachtree Rd., NW
Atlanta, GA. 30309

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.

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.

The following abbreviations may be used in the report.

- A - Automatic
- AB - Automatic block
- ACS - Automatic cab signal
- APB - Absolute permissive block
- ATC - Automatic train control
- ATS - Automatic train stop
- CL - Color light
- CPL - Color position light
- E - Electric
- EM - Electromechanical
- EP - Electropneumatic
- FP - False proceed
- MB - Manual block
- M - Mechanical
- P - Pneumatic
- PL - Position light
- SA - Semiautomatic
- TC - Traffic control

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 checked="" type="checkbox"/> TC	3/20/96	8534	human error	Wytheville, VA
2 INTERLOCKING <input type="checkbox"/> REMOTE <input type="checkbox"/> MANUAL <input type="checkbox"/> AUTO-MATIC				
3 AUTOMATIC SYSTEMS <input type="checkbox"/> ATS <input type="checkbox"/> ATC <input type="checkbox"/> ACS				
4 OTHER (specify)				

NATURE AND CAUSE OF FAILURE / CORRECTIVE ACTION TAKEN

At approximately 8:45 AM, Train No. 111, with Engineer _____ and Conductor _____, was eastbound at the west end Wytheville siding and observed eastward signal 116R displaying clear for their train. Train No. 227, at that time, was approaching and passing westward signal 118L at east end Wytheville siding. Signal 118L was displaying diverging approach for No. 227's move into Wytheville siding. Engineer _____ on No. 111 was aware of his impending meet with No. 227 at Wytheville and knew he should have seen an approach indication on signal 116L, therefore he stopped his train at the west end and reported the incident.

Signal personnel were called and on arrival were able to duplicate the reported situation. With eastward signal 118R at east end Wytheville displaying stop the advance signal, 116R, at west end Wytheville did display clear instead of approach. The problem was traced to being caused by different AC power sources feeding the local and control coils on the signal control relay (116R BP), a three position AC vane relay, at west end Wytheville.

The signal circuits on this district are AC type, fed by a 4800 volt distribution line on the poleline. There are three substations between Bristol and Radford, Virginia which can all be feeding portions of the line if separated by sectionalizing switches which are spaced at about every seven miles along the poleline. One of these sectionalizing switches is located between the switches at Wytheville. That set of switches had been left open after storm trouble repairs the previous night, with the west end being fed up from Marion and the east end fed down from Radford. The original configuration had been that the W-BX110 which went through the 118R HR at east end to select control phasing on the 116R BP circuit was off the same (west) side of the switches that fed the local winding at west end. When a transformer had burned up back in mid-1994, the W-BX110 line had been incorrectly tapped onto a transformer that came off the east side of the switches. Thus the condition was at that time set up to allow the two coils of the 116R BP relay to be fed from two separate sources if these sectionalizing switches were ever left open and fed from two different power companies. The fact that the two power feeds happened to be out of phase, led to the 116R BP relay receiving what looked like the proper control to display a clear signal when the east end controlling relay was sending what was meant to be an approach.

Since this territory is to be converted to electronic track circuits this year, the switches were removed from service, and locked in the closed position. The signals were returned to service after appropriate testing.

FAX TO: 404-546-8466