



# IronWood Technologies

Railroad Accident Reconstruction

## Federal Railroad Administration

### False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - Cause: Phantom Signal - Due to Unpainted Signal Hood or Background

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
493	7/4/1995	SP	CTC			SP 1LBCXT-02	Signal TS	E.E. Paisano, TX	N
<p>On July 4, 1995 at approximately 11:45 AM, Engineer operating train no. 1LBCXT-02 traveling east on the Paisano siding, reported that at 3000 feet from the East End of the siding, signal TS appeared to be Green; but as he got closer, to about 1000 feet of the end of the siding, he saw that the signal was indeed Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was put to STOP and thoroughly inspected and tested, and was found to be working as intended with no exceptions.</p> <p>The signal system was restored to service on July 4, 1995 at 5:00 PM.</p> <p>The Signal Supervisor returned to the location the next day, at the same time, to monitor the signal in question and found that there could have been a reflection problem from the underside of the hood. This was corrected and a 30 degree spread lens was installed to improve the visibility of the signal across the curve.</p>									
66	6/10/1996	BNSF	CTC			9593W	None	Northport, NE	N
<p>At 12:58 MDT on June 10, 1996, Engineer operating the 9593 West (Train 131RC211) reported a Red over Yellow aspect at Northport and while approaching West Northport a "high green" was observed at West Northport, while the 9524 East was lined through the West Northport location. Interview with crew of the 9593 revealed that as they approached West Northport, 775 feet from the 1 WA signal, it appeared Green. At 462 feet from the 1 WA signal it was observed Red over Red, and they stopped their train 268 feet from the 1 WA signal. CTC data log and local data in memory at field site indicate 1 WA signal was not requested at West Northport. All signal equipment at West Northport tested. Interlocking tests performed with no exceptions. On June 11, 1996 at 12:58 MDT the area was observed in the same sun light conditions. From the point where the crew alleged a high green, our observation revealed a light colored area on the background of the 1 WA signal. This was caused by bird excrement. The area in question was painted with flat black paint, lenses cleaned, and lamp voltages set at 9.2 volts to improve visibility of signal. It is our opinion, this is not a false proceed incident. This report is being filed as information only. See diagram attached.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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99	9/13/1996	NS	CTC			1639	Signal	Clemer, IN	N
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Train No. 144 was traveling westbound and had been informed that they were to meet eastbound Train No. 206 at Clemer. At approximately 8:07 AM Train No. 144 called westward signal B-417.9 APPROACH DIVERGING. Approximately two minutes later Train No. 144 called an APPROACH for the westward signal at East End Clemer, which was the correct signal since they were lined to take and hold the main track. Train No. 144 should have seen an APPROACH at B-417.9 with a westward APPROACH displayed at the East End Clemer. A route had been lined for Train No. 206 to take the siding so the B-423.5 signal was correctly displaying APPROACH DIVERGING. TC logs at Ft. Wayne verified these routes were set up for the meet.

Signal personnel were called to investigate and were unable to duplicate the incident as reported. All appropriate tests and inspections were made with no exceptions taken. Numerous attempts to duplicate the problem were made with nothing out of the ordinary seen. The B-417.9 colorlight signal has a three-position head on top and a single Green head that is lit only for the Yellow-over-Green APPROACH DIVERGING indication. The bottom head was observed to be dark as intended unless a route was lined westward into the Clemer siding. A phantom aspect was then suspected but would have to be checked under the sunlight conditions encountered by Train No. 144.

The next morning, right after 8:00 AM, the same crew and engine were used to check for a phantom aspect. During the recreation, two separate occurrences of a phantom signal were observed. At MP 417.2 a faint Green could be seen that was found to be caused by reflection off the aluminum colored mast between the two signal heads. At MP B-417.7 the signal looked proper - Yellow over Dark. About 200 feet from the B-417.9 signal sunlight was seen to be reflecting through the bottom Green lens. The problems were corrected by painting the part of the mast between the heads flat black and by using an extended hood on the bottom head.

145	3/24/1997	NS	CTC			8805-8893	Phantom Signal	Williamson	N
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At approximately 12:00 noon, Train No. U06-581, running eastbound, called an ADVANCE APPROACH indication on signal N-471.2 shortly after emerging from Williamson Tunnel. The crew, consisting of Engineer and Conductor and accompanied by Trainmaster, all reported seeing this indication, but as they got nearer to the signal, they reported it "dropped" to an APPROACH. Facts later were used to determine that an APPROACH was the proper signal they should have received on N-471.2 as the next signal at Williamson had never been lined for their route.

Signal personnel were called to investigate and could not duplicate the reported incident. Appropriate signal tests were made at both Williamson and at signal N-471.2 with no exceptions taken. The signal system was returned to service with appropriate limitations until a test for a phantom aspect could be made.

At about the same time the next day, a reenactment was made with a similar lead locomotive configuration. Trainmaster accompanied the signal personnel. With his help, it was determined that the ADVANCE APPROACH had first been noted in a 6-degree curve leading to the signal at a point approximately 1270 feet from the signal. The APPROACH indication had been noticed at about 950 feet from the signal. Whereas there was bright sunlight on the day of the accident, this next day it was overcast. It was observed that the signal indication could not be seen until they got to about 950 feet from the signal. Trainmaster then acknowledged that what he had observed further out than 950 feet on the previous day could not have been the lighted aspects because of the signal alignment. At about 12:15 PM the sun did come out bright and a possible phantom ADVANCE APPROACH was observed from the sun reflecting off the tops of the signal hoods. The signal hoods are slightly faded with a lot of bird droppings on them. This was a very dim looking phantom, and should not have been construed as being a signal.

Report #	Date	Reporting Carrier	Block System	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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<b>125</b>	10/14/1997	BNSF		Remote		Train ID # CJRKC	Phantom Signal	Lincoln, NE	N
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Train crew reported to the Carling Tower Operator that they had a Red over Lunar aspect on the 2E Signal on the South Wye at Hall Tower Interlocking plant. The train stopped prior to passing the signal and questioned the Carling Operator since he had not seen this aspect on this particular signal before. The Operator had not lined the signal. Signal personnel determined that the 2E signal was not equipped with a lunar lens. It was determined that what they saw was the sun reflecting off the snow shield on the bottom head. This signal is located on a curve and next to an overpass which was casting a shadow on a portion of the signal. Signal personnel did observe the reflection that was reported by the train crew which was a very bright white light approximately 3 to 4 inches in diameter. The signal was re-adjusted for better visibility and individual hoods for each aspect were installed, replacing the snow hood which is a continuous hood shielding all aspects. This is a new Safetran signal which includes new back grounds and hoods.

<b>399</b>	1/17/2003	NS	CTC			NS 9077	Phantom Aspect, Color Position Light Sign	Hurt, VA	N
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At 11:00 a.m. on January 17, 2003, train 3529217 with lead engine NS 9077 was eastbound on the Altavista District of the Virginia Division when the crew reported they observed an APPROACH DIVERGING aspect on signal 2026 at MP V 202.6 and received a STOP aspect at CP Hurt at MP V 200.2. The 2026 signal should display an APPROACH aspect with a STOP aspect at CP Hurt. This is electronic track territory with electronic interlockings and color position light signals. Cables were meggered, relays tested and grounds checked at both locations with no exceptions found. Logger cards were installed at both locations. The 2026 signal was returned to service on January 17, 2003.

On Saturday, January 18, 2003 the signal was observed at the same time as the eastbound move on the previous day from a test engine with C&S and Transportation personnel on board. Conditions were similar to that of the previous day and in approach of the 2026 signal there appeared to be two white lights on the bottom head of the signal in the 90 degree position. Further investigation found that the signal hoods over the bottom head lenses were faded on the top and sides of the hoods. The sun was to the right of the signal and sunlight was reflecting off of the signal heads giving the white light effect. The top head (45 degree yellow) was clearly visible. This could have been mistaken for an APPROACH DIVERGING aspect if the train crew did not watch the signal carefully.

The signal hoods in question were painted with a flat black paint and observed in like conditions on January 20, 2003 with no exceptions taken.

<b>428</b>	11/20/2003	UP	CTC			UP 2236	None	Vaughn, NM	N
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On November 20, 2003 at 14:32 MST, in Vaughn, NM on the Carrizozo Subdivision, westbound MHNEP-19, on the main track at MP 741.2, reported the westbound absolute at CP TC741 (West Vaughn) was Green, then turned to Red, with the switch at West Vaughn lined against him.

An investigation revealed the Red signal appeared Green for a short time, from reflection off of the top of the signal hood, while the westbound train was rounding a curve.

The signal was realigned, and all applicable tests were performed.

No. of Reports Shown in this Listing: 7