



IronWood Technologies

Railroad Accident Reconstruction

Federal Railroad Administration

False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - State of Nebraska

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
37	1/20/1995	UP	CTC			NLNP-18	None	Darr, Nebraska	N
Cause									
Narrative									
<p>Loss of Shunt - Possible Rust or Foreign Material on Rail</p> <p>On January 20, 1995, at 15:53 (CDT) westbound NLNP-18 on the Council Bluffs Subdivision was stopped on Track 1 at Control Point B233 with westbound LND-15 occupying Track 1 west of the control point. NLNP-18 reported signal 1W went from Red to Green about four times in 5-second durations.</p> <p>An investigation could not duplicate the occurrence, and it was determined that loss of shunt by LND-15, a single 4-axle locomotive, had caused the signal display.</p> <p>All applicable tests were performed.</p>									
40	4/27/1995	UP	CTC		ACS	CNW 6933		Keith, Nebraska	N
Failed Equipment or Device - Relay									
<p>On April 27, 1995, at 03:50 (CDT) westbound ELNP on Track No. 1 on the Council Bluffs Subdivision reported that the westbound signal at CP B276 was Yellow into an occupied block.</p> <p>An investigation revealed that a loose piece of solder bridged a contact and falsely energized the 1COTESER relay allowing a Yellow signal with a train ahead in the block.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									

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65	5/30/1996	BNSF	CTC			Train #01-168-29 -	Aerial Cable Shorted	Ashland, NE	N
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Cause
Narrative

Vandalism - Cable Damaged by Digging

At approximately 21:21 hours train crew on eastward train #01-168-29 reported that the absolute signal on main track two West Ashland (2E signal) displayed an APPROACH MEDIUM aspect and that they could see that the next signal, absolute signal at Ashland Crossovers (2E signal) was dark. Signal maintenance personnel investigated and determined that two wires in the aerial cable was shorted between West Ashland and Ashland. The two circuits shorted together were the 40LA-42LB RYGP and the 38 RAFY.

The sequence of events were as follows:

Train 01-168-29 was sitting west of absolute signal 2E at West Ashland. The dispatcher requested the 2E signal which did not line. This signal should have displayed an APPROACH aspect since Ashland had not yet been lined, however, with the 38 RAFY energized it caused the signal to display an APPROACH MEDIUM aspect. The 38 RAFY being energized also caused the Red repeater at Ashland to de-energize. Since the dispatcher had not requested the 2E signal at Ashland the Harmon Logic Controller (HLC) de-energized the red bulb voltage. Maintenance personnel megged cable and used spare wires to replace damaged wires. Operational checks performed with system working as intended.

Inspection of the cable did not reveal how or why these wires had become shorted. The cable in this area was then replaced. After new cable was in service a closer examination of old cable revealed that the cable had been partially cut. This damage had been caused by outside contractor who had been removing open line wires. The contractor pulled line wires over cable which cut through insulation and into wires.

66	6/10/1996	BNSF	CTC			9593W	None	Northport, NE	N
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Phantom Signal - Due to Unpainted Signal Hood or Background

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.

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109	1/9/1997	BNSF	CTC			Helper Engine BN 5	Design of EOR Circuit	Near Firth, NE	N
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Human Error - Signal Circuit Design Error, Inadequate Service-Testing

At approximately 2115 hours, Thursday, January 9, 1997, train crew on the helper engine reported that they were sitting on the rear of eastward coal train #03HH98-08, on main track two, east of intermediate (241.9). They reported observing an APPROACH MEDIUM aspect on westward intermediate signal (141.9), on main track one. They believed this signal should have been an APPROACH aspect. There were three trains involved in this incident, the third train was engines from a grain train #01GLIMA-06, which had also assisted in pushing coal train over hill. At the time that the alleged improper aspect was observed the grain train engines were headed west, occupying the track west of intermediate signal 241.9. Dispatcher had lined grain train engines westward at West Firth from main track two to main track. At this time the eastward signal from main track one to main track at East Firth was also lined. (Diagram attached)

This report was confirmed. With the scenario as described the 141.9 signal would display an APPROACH MEDIUM aspect when it in fact should have displayed an APPROACH aspect. However, the signal system functioning as designed. A design change was made to ensure this would not be observed again.

Although this condition could be observed from adjacent track, if main track one was occupied or a signal lined through the block this condition would not exist. Basically, no train could accept this signal could observe this condition.

This report being filed for information purposes only.

153	2/8/1997	UP	AB			UP9191	Relay, 75 Coder	North Platte, Nebraska	N
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Failed Equipment or Device - Relay

On February 8, 1997, at 14:40 CDT on the Council Bluffs Subdivision, CJRWB-07 was eastbound on Track No. 2 at M.P. 285.5 and observed the eastbound signal at B285 was cycling from Green to Yellow with the second track ahead of the signal occupied.

An investigation revealed a Style 75 Coder Relay that operated the eastbound signal at B285 intermittently failing.

The relay was replaced, and the signal system was restored to proper operation, and all applicable tests were performed.

NOTE: This report supercedes previous report of this incident dated February 14, 1997.

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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170	9/8/1997	UP	CTC			UP 3347	Switch Machine	North Platte, NE	N
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Maintenance - Switch Circuit Controller

On September 8, 1997, at 05:46 CDST, on the Council Bluffs Subdivision at B283 in North Platte, Nebraska, eastbound ZSEME 05, while making a move from Track 1 to Track 3, had a PROCEED signal with the east switch of the east crossover gapped open approximately one inch.

An investigation revealed the switch had been run through and the switch machine and rods had been damaged and bent in such a manner to allow the machine to lock up and indicate with the point gapped.

The switch machine was replaced, the signal system was restored to proper operation, and all applicable tests were performed.

125	10/14/1997	BNSF		Remote		Train ID # CJRKCN	Phantom Signal	Lincoln, NE	N
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Phantom Signal - Due to Unpainted Signal Hood or Background

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.

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126	10/16/1997	BNSF	CTC			BN 9507	None	Bridgeport, Nebraska	N
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Human Error - Signal Circuit Design Error, Inadequate Service-Testing

Approximately 0805 MDT BN 9507 east, train symbol EMLTBTM236 with 0 loads 116 empties 3147 tons 6380 feet, stopped in approach to EA signal at East Bridgeport on Main Track observed EA signal display Green for approximately 4 seconds then Yellow for 2 seconds then went Red. Helpers BN 9212 east a two unit 12 axle consist was cleared out of the siding at East Bridgeport and was at intermediate signal 35.8 at the same time BN 9507 observed the EA signal telegraph. BN 9507 east did not take the EA signal. Supervisor Signal was notified at 0824 MDT and advised Alliance South dispatcher to put signals to STOP. Maintainer notified st stay at depot Bridgeport until Supervisor's arrival. Field data logs and Ft. Worth Network office logs show 1WT track picking up and the 1ET track deenergized at the same time at intermediate signal 35.8. 1WT track is an end fed dc track circuit with a biased 2 ohm relay. 1ET track is Electrocode II. Reenactment was performed using a two unit 12 axle consist and the problem could not be duplicated. Tests were performed at intermediate signal 35.8 using 0.06 ohm shunts which showed Electrocode II 1ET track circuit deenergized approximately 5 seconds after a 0.06 ohm shunt was placed on circuit at signal 35.8. It was calculated that the 12-axle consist traveling approximately 30 mph would cause the 1WT to energize before the 1ET track deenergized, which would allow the 1EHR and the 1EDR at East Bridgeport to energize causing signal to momentarily display green then yellow and back to red when 1ET track deenergized. Office logs confirm EA signal at East Bridgeport displayed aspect cleared for 5 seconds. HXP-3R2 data logs from Hwy 26 show BN 9212 east passed intermediate signal 35.8 at 28mph.

Corrective action taken - installed 8 second loss of shunt time on 1WT track circuit to compensate for the 5 second delayed deenergization on the Electrocode II - 1ET track circuit. Operational tests performed on signal system with no other exceptions taken.

174	11/5/1997	UP	CTC			UP 9367	Shunt Wires	Falls City, Nebraska	N
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Maintenance - Switch Shunt Wires Broken

On November 5, 1997 at 12:10 CDT, on the Falls City Subdivision in Falls City, Nebraska, at Control Point Z384, northbound ZMESE 03 on the main track had CLEAR signals with the siding switch of a crossover movement.

An investigation revealed the shunt wires were broken at the siding switch of the crossover at MP 384.4.

The shunt wires were replaced. The signal system was restored to proper operation, and all applicable tests were performed.

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			Cause							
			Narrative							
129	12/17/1997	BNSF	CTC			EMD 9068	None	Crawford, Nebraska	N	
			Human Error - Signal Personnel Introduced False Energy into Signal System During Testing							
			<p>Approximately 1545 MST EMD 9068 with 115 loads 0 empties, 15600 tons, 6700 feet long, train symbol CBKMSLC459, was eastbound Main Track 2 and had a Green/Red at Control Point Crossover 437.5, Flashing Yellow/Red at intermediate signal 2-427.2 and red/red at control point Crossover 425.5. Engineer made normal train stop in approach of Red/Red at Crossover 425.5 and was advised by Signal Inspector and Signal Electronic Technician that they were troubleshooting a signal problem and that they had caused intermediate signal 2-427.2 to display Flashing Yellow/Red. Crew notified dispatcher, and Signal Supervisor was notified. Signal Supervisor obtained statements from Inspector and Electronic Technician. Inspector was testing for a cross by opening wires one at a time off of the C12 buss and had removed the C12 coil wire from the buss which fed the 2EAHGR relay. Removing the wire created a pickup path that passed through the coils of the 2EASPR, the 2EAHGR to the 2EAHGPR by way of a parallel coil wire connection and energized the 2EAHGPR causing the Electrocode unit to transmit a Flashing Yellow code 4 to signal 2-427.2.</p> <p>Corrective action: Parallel coil wire connection between the 2EAHGR and 2EAHGPR was separated and the 2EAHGPR was made a repeater of the 2EAHGR. Signal system tested with no exceptions. Investigation scheduled to determine responsibilities of Inspector and Electronic Technician.</p>							
232	10/3/2000	BNSF	CTC			BNSF 9819, C-BTM	EC II Unit	Humboldt, NE	N	
			Failed Equipment or Device - Electrocode Module							
			<p>Signal cable had been damaged by a backhoe at E. Humboldt, NE, MP 135.65. In the process of repairing the cable the train crew reported that they observed the eastbound signal go from an APPROACH aspect to a CLEAR aspect at W. Humboldt, MP 137.3 for 5-10 seconds then drop back to the APPROACH signal. Signal personnel determined that a portable radio being used for the testing of E. Humboldt caused the codes being transmitted to W. Humboldt from the Electrocode II box to upgrade. The radio was a Motorola HT 600, 5 watt.</p> <p>Corrective Action Pending: Harmon/GE Harris Corp. has been notified in regards to the failure.</p>							
327	7/3/2001	UP	CTC		ACS	UP 6869	None	Nevens, NE	N	
			Human Error - Improper Circuit Jumper in Place							
			<p>On July 3, 2001 at 13:16 CDT, at Nevens, Nebraska on the South Morrill Subdivision, eastbound CNRWX 02, on the main track at MP 18.7, reported the eastbound signal WO18 displayed a Yellow aspect with the track east of Signal WO18 occupied.</p> <p>An investigation revealed a loose terminal washer had caused a short in the BELOR relay that caused the AEHR relay to pick and display a Yellow aspect from eastbound signal WO18.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>							

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202	1/26/2004	UP	AB			UP 2319	None	Columbus, NE	N
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Human Error - Signal Circuit Design Error, Inadequate Service-Testing

On January 26, 1998, at 10:30 CST, on the Council Bluffs Subdivision at Columbus, NE, eastbound LNF10/26, in the siding, observed the eastbound siding leaving signal A848 and the eastbound main signal 846 display Green aspects with track circuit west of eastbound signal 846 occupied.

An investigation revealed the track circuit west of eastbound signal 846 was left out of the control of the eastbound siding leaving signal A848.

The signal system was restored to proper operation, and all applicable tests were performed.

No. of Reports Shown in this Listing: 14