



IronWood Technologies

Railroad Accident Reconstruction

Federal Railroad Administration

False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - State of Colorado

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
452	2/5/1995	SP	CTC			BN 063	Signal 2H	Utah Jct., CO	N
Cause									
Narrative									
<p>Scenario Reenacted, Unable to Duplicate, No Defects Found</p> <p>On February 5, 1995 at approximately 10:56 PM, Engineer operating train no. BN 063 traveling east, reported that signal 2H at Utah Jct. was CLEAR when it should have been Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was immediately removed from service and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. The Digicon system showed that signal had not been requested by the dispatcher and was not CLEAR.</p> <p>The signal system was restored to service on February 6, 1995 at 5:10 AM.</p>									
460	2/20/1995	SP	CTC			1DVROM 20	Signal 6767W	Rio Xover, CO	N
Phantom Signal - Due to Object in Foreground or Background									
<p>On February 20, 1995 at approximately 10:25 PM, Engineer operating train no. 1DVROM 20 traveling west, reported that he had a Yellow at signal 6745W approaching Rio and the next signal 6767W at Rio initially appeared to be Green, but as they came around the curve and observed the signal from a different angle, they saw it was Red over Red as intended.</p> <p>Under the direction of the Signal Maintainer, the signal system was removed from service and thoroughly tested. The train crew was also interviewed. Tests showed the signal system to be working as intended with no exceptions. However, it was revealed that a yard light at Rio which was recently restored to service could be mistaken for a Green signal aspect when viewed from a certain location.</p> <p>The light in question was turned off to eliminate the problem. The next day, the light cover was painted to keep crews from seeing it.</p> <p>The signal system was restored to service on February 21, 1995 at 4:05 AM.</p>									

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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461	2/21/1995	SP	CTC			1ASROM1 17	Signal 2963R	West Belden, CO	N
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Cause

Narrative

On February 21, 1995 at approximately 12:25 PM, Engineer operating train no. 1ASROM1 17 traveling west, reported that they had a Flashing Yellow on signal 2921 and a Yellow on signal 2945 at East Belden, but found that the repeater signal 2963R at West Belden was dark. The crew was unable to stop the train and ran through the west switch at Belden which was lined reverse.

Under the direction of the Signal Engineer, the signal system was immediately removed from service for repairs to the power switch and thorough testing. Test showed that signal 2963 was dark due to a burnt out lamp, the 2963R was Flashing Red, the 2945 at East Belden was Yellow and the 2921 was Flashing Yellow. All tests showed the signal system to be working properly with the exception of the burnt out lamp. However, the next day we found that the sun was washing out the Flashing Red aspect on signal 2963R, so the lenses were replaced, the signal was realigned, and a sun shield (or sunhood) was installed to block the sun off the colorlight signal.

The signal system was returned to service on February 21, 1995 at 6:45 PM.

480	5/1/1995	SP	CTC			1DWHLE 01	Signal 619	Frazer, CO	N
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Scenario Reenacted, Unable to Duplicate, No Defects Found

On May 1, 1995 at approximately 7:40 PM, Engineer operating train no. 1DWHLE 01 traveling west, reported that signal 619 at east end of Frazer was CLEAR, then suddenly went Red/Red in their face.

Under the direction of the Signal Supervisor, the signal system was removed from service and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. In addition, computer room reviewed tapes and found no control sent to that location or no indication of CLEAR signal from East Frazer.

The signal system was restored to service on May 1, 1995 at 11:59 PM.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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492	6/29/1995	SP	CTC			SP 1ARCKC-29	Signal 272	Plain, CO	N
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Failed Equipment or Device - Battery or Circuit Breaker

On June 29, 1995 at approximately 12:48 PM, Engineer operating train no. 1ARCKC-29 traveling east, reported that he observed that signal 272 approach to West Plain was Flashing Yellow and he then found the eastward absolute signal at West Plain Red and overran it.

The Signal Engineer and Signal Supervisor investigated and found that the battery was low due to an open fuse in the AC powerline. They found that a battery voltage of about 6.2 volts would cause the 72S relay to pump causing the signal to display a Flashing Yellow aspect until the battery dropped to about 5.2 volts where it went to STOP.

The signal system was thoroughly tested and no other problems were found. We have continuously lighted the signals to prevent a reoccurrence of this problem with the approach lighting circuit.

521	10/3/1995	SP	CTC			SP 1CPKIC-01	Signal 1EA	Pueblo Jct., CO	N
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Phantom Signal - Due to Sun Angle

On October 3, 1995 at approximately 5:23 PM, the 1CPKIC-01 moved eastward past signal 1EA with the switch lined reversed against him and left the switch out of correspondence with bent rods. When questioned later, the Engineer advised that he had been stopped at the signal for an opposing train, and after it cleared the switch, he saw the signal 1EA display a Red over Yellow and he proceeded without observing that the switch was lined against him. He stopped at the next signal 2EA until the dispatcher cleared it and then proceeded without realizing that he had damaged the switch by training through it.

The Signal Supervisor repaired the switch machine and thoroughly tested the signal system. He found it working as intended. The Digicon system showed the switch reversed and the signal 1EA at STOP when the 1CPKIC-01 went by the signal.

The Signal Supervisor observed the signal at the same time the next day and found that signal 1EA was washed out by the sun shining into it. He installed phankills on the eastward signals at this location.

527	10/30/1995	SP	CTC			SP 5HPHLE-30	Signal 6420E	Kyune, CO	N
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Scenario Reenacted, Unable to Duplicate, No Defects Found

On October 30, 1995 at approximately 9:05 PM, Engineer operating train no. 5HPHLE-30 traveling east, reported that signal 6420E was Green, with a Red over Lunar at signal 6400E at the West End of Kyune. Signal 6420E should have been Yellow.

Under the direction of the Signal Supervisor, the signal system was inspected and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. A visual inspection of the signal, conducted over a three day period following the incident, did not show any malfunctions.

The signal system was returned to service on October 31, 1995 at 12:30 PM.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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544	1/10/1996	SP	CTC			SP 1RVASM-08	Signal 6022	East Mounds, CO	N
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Cause

Narrative

Phantom Signal - Due to Sun Angle

On January 10, 1996 at approximately 4:20 PM, train no. 1RVASM-08 traveling east, was in the siding at the east end of Mounds waiting for train no. 10ANSF to pass on the main. After the 10ANSF passed by signal 6022 on the main line, the Roadmaster noticed that signal 6022 appeared Green. The train crew on the 1RVASM-08 also reported that the signal appeared Green.

Under the direction of the Signal Supervisor, the signal system was inspected and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. [The Signal Supervisor] returned the next day at about the same time to observe the signal and noted that as the sun started to shine on the green lens the signal appeared to be Green. Phankill screens were installed on all the eastbound signals at East Mound to correct the problem.

The signal system was restored to service on January 10, 1996 at 11:00 PM.

548	1/19/1996	SP	CTC			Utah Rwy. Helper	Signal 6327E	Lynn, CO	N
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Scenario Reenacted, Unable to Duplicate, No Defects Found

On January 19, 1996 at approximately 1:55 PM, Engineer operating Utah Railway Helper Engine No. UR9002, moving east past Lynn Crossover, reported that he looked back behind his train and observed that the westward absolute signal (6327E) appeared to be displaying a Green over Red aspect.

Under the direction of the Signal Supervisor, the signal system was thoroughly tested and found to be working as intended with no exceptions.

The signal system was restored to service on January 19, 1996 at 8:00 PM.

554	2/14/1996	SP	CTC			SP 1-6A-13	Signal 986	Troublesome, CO	N
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Scenario Reenacted, Unable to Duplicate, No Defects Found

On February 14, 1996 at approximately 5:08 PM, Engineer operating train no. 1-6A-13 traveling east, reported that signal 986 was Red over Yellow, but as he got closer, he glanced at the signal and observed that it was Yellow over Yellow.

Under the direction of the Signal Supervisor, the signal system was thoroughly inspected and tested. All tests showed the signal system to be working as intended with no exceptions.

The signal system was returned to service on February 15, 1996 at 2:00 AM.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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561	6/3/1996	SP	CTC			SP 5HPHLE-03	Signal 6296W	Utah Ry. Jct. Xover, CO	N
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Human Error - Field Wiring Error, Inadequate Service Testing

On June 3, 1996 at approximately 4:55 PM, train no. 5HPHLE-03 traveling east on the eastbound track was approaching a Red signal at ABS 6296E. The Engineer on board reported that he observed signal 6296W, on the westbound track, remain Green well after train 1EUCHQ-31, traveling east on the westbound track, had passed signal 6296W and was heading towards the Utah Railway Junction.

Under the direction of the Signal Supervisor, the signal system was put to STOP and thoroughly tested. Tests showed that when recent repairs were made to replace damaged track connections at ABS 6288, the wires were installed improperly, thus causing the signal malfunction at ABS 6296W.

The track wires in question were installed properly, the signal system was tested and found to be working as intended with no exceptions.

The signal system was returned to service on June 4, 1996 at 12:30 AM.

568	8/19/1996	SP	AB			SP 1MNGVC-17	Signal 8461	Ordway, CO	N
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Scenario Reenacted, Unable to Duplicate, No Defects Found

On August 19, 1996 at approximately 10:40 PM, Engineer operating train no. 1MNGVC-17 traveling west, reported that signal 8461 at the east end of Ordway was Green. Signal 8461 should have been Red because the switch at the west end of Ordway was reversed.

Under the direction of the Signal Supervisor, the signal system was thoroughly tested. It was found that the Red lamp in signal 8461 had burned out therefore it was dark when it should have been Red. Other than the burned out Red bulb in Signal 8461, all tests showed the signal system to be working as intended with no exceptions.

The signal system was returned to service on August 20, 1996 at 7:00 AM.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
575	11/4/1996	SP	AB			SP 1EYSCH-02	Signal 5706	Olmitz, CO	N	
			Phantom Signal - Due to Sun Angle							
			On November 4, 1996 at approximately 4:00 PM, Engineer operating train no. 1EYSCH-02 traveling east, reported that signal 5706 was Green and signal 5692 at the west end of Olmitz was Red.							
			The Signal Supervisor was called and arrived at the location within 15 minutes. He watched signal 5706 and observed that the sun was shining onto the signal head in such a way that the Yellow aspect could not be seen, while the Green aspect appeared lit. Phantom screens were installed on the signal head, and the batteries were replaced to increase the voltage on the signal lamp.							
			The signal system was thoroughly tested; all tests showed the signal system to be working as intended with no exceptions.							
			The signal system was returned to service on November 4, 1996 at 7:00 PM.							
155	4/7/1997	UP	AB			LVW50-06	Switch Foot	Adobe Creek, Colorado	N	
			Maintenance - Switch Circuit Controller							
			On April 7, 1997, at 2:22 DST on the Hoisington Subdivision, eastbound LVW50-06 observed the signal at the west end of Adobe Creek was CLEAR with the switch at the east end of Adobe Creek in a reverse position for movement from main to siding.							
			An investigation revealed the switch foot connecting the switch rod to the switch point at the east end of Adobe Creek was broken, so reversing the switch would not operate the switch circuit controller which would have caused a Red signal at the west end of Adobe Creek.							
			The switch was repaired; the signal system was restored to proper operation, and all applicable tests were performed.							
168	9/15/1997	UP	AB			Yard Job	None	Commerce City, CO	N	
			Vandalism - Signal Damaged, Caused Unintended Signal Aspect							
			On September 15, 1997, on the Greely Subdivision at Commerce City, Colorado, the southbound Yard Job reported the northbound signal at milepost 4.0 displayed a Green indication with the track occupied north of the signal.							
			An investigation revealed that vandals had painted the red lens of the northbound signal at milepost 4.0 with blue paint, which caused the signal to appear to display a Green indication.							
			The painted lens was replaced with a red lens, the signal system was restored to proper operation, and all applicable tests were performed.							

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269	1/11/2000	UP	CTC			AMTK-53	None	Bond, CO	N
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Cause

Narrative

Phantom Signal - Due to Sun Angle

On January 11, 2000 at 14:13 MST, in Bond, CO on the Glenwood Springs Subdivision at MP 156.00, eastbound Amtrak 53 on the main track lined for the siding, reported the eastbound signal was Red over Yellow into the siding with the switch reversed into track and time.

An investigation revealed a phantom signal in the bottom head caused it to appear Yellow.

The lens was changed in the bottom head, it was refocused, and the background was painted flat black. The signal system was restored to proper operation, and all applicable tests were performed.

289	4/8/2001	BNSF	CTC			ID# MLAULIN1-05A	Human Error	Yuma, CO	N
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Human Error - Improper Equipment Installed

The BNSF 8063 was an eastward train sitting in the siding at East Siding Switch Yuma. Eastward train ID# ZDENCHI9-08A, Engine # 4372 passed them on the main track. After the train had passed the dispatcher requested the switch reverse and an eastbound signal out of the siding. The train crew on the 8063 reported that their signal went from a STOP indication to a CLEAR indication. They communicated with the 4372 and determined that they were between the first and second intermediate signals to the east of Yuma. They realized that they should have had an APPROACH indication, stopped their train and reported this to the dispatcher. Signal personnel notified. The investigation revealed that the 40 BD relay should have been a biased relay (GRS A65-120) and was in fact a neutral relay (A65-345). The relay was replaced and the signal system tested with no other problems found. It could not be determined who or when this relay was installed.

367	9/3/2002	UP	CTC			CNW 8817	None	Platteville, CO	N
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Loss of Shunt - Possible Rust or Foreign Material on Rail

On August 30, 2002 at 21:27 MDT, at Plattville, CO on the Greeley Subdivision, southbound CCSBR1-31, on the siding at MP 33.80, reported that the signal out of the siding at CP W034 went Green and then Red with the main track south occupied.

An investigation revealed the train occupying the main track south of CPW034 was a single 4 axle locomotive, and that the CTC log had recorded a momentary loss of shunt.

All applicable tests were performed.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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425	10/21/2003	UP	CTC			BNSF 8819	2 Relays	Castle Rock, CO	N
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Failed Equipment or Device - Relay

On October 21, 2003 at 13:20 MDT, in Castle Rock, CO on the Colorado Springs Subdivision, northbound BNSF 8819, on the main track at MP 31.6, reported the northbound signal at MP 31.6 was Flashing Yellow and the next northbound signal at MP 29.4 was Red.

An investigation revealed a high resistant contact on the coded 20T track relay along with an internal jumper missing in the 20HR relay allowing northbound signal at MP 31.6 to alternately display Yellow and Dark.

The relays were replaced and all applicable tests were performed.

No. of Reports Shown in this Listing: **19**