



IronWood Technologies

Railroad Accident Reconstruction

Federal Railroad Administration

False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - Cause: Human Error - Signal Personnel Introduced False Energy into Signal System During Testing

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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26	3/4/1995	NS	CTC			6598	Human Error	Stockbridge, GA	N
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Train No. 230 was northbound at Milepost 169.811, the first intermediate signal north of Stockbridge control point, where they observed a CLEAR signal indication. Aware of the presence of another northbound train in the block ahead, they contacted the dispatcher and were instructed to take the 169.8H signal as displaying RESTRICTED PROCEED. The next signal, intermediate 166.8H, was displaying RESTRICTED PROCEED when they came in sight of it. The train ahead, No. 140, had been in the block just past this signal when No. 230 observed the CLEAR indication at 169.8H.

Signal personnel were in the process of repairing a severely vandalized signal bungalow at Pless, Milepost 164.5H. Because of damage to the signal system at Pless, northward signals were not available leaving the next control point south (Stockbridge). To expedite train movements, signal personnel were stationed at the 166.8 signal with an ElectroCode test set temporarily feeding signal codes into the location as if they were coming in from Pless. Through a lack of communication, the temporary arrangement was configured to give false proceed indications to northbound trains. The temporary arrangement was removed and the signal system returned to normal service after testing as required following the restoration of Pless bungalow.

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515	9/5/1995	NICD	APB			2004	Track Circuit	Porter, IN	N
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NICTD Signal Maintainer was called out on the morning of September 5, 1995 to locate and repair the source of restrictive signal indications between and including the opposing head block signals located at the east end of Wilson passing track and at the east end of Bailly siding. It was later learned that the restrictive indications were the result of an insulated joint short-circuited by damaged rail at the fouling circuit where the west end of North Bailly siding meets the main track.

The Signal Maintainer was unaware of the shorted insulated joint when he discovered that track relay A472 was de-energized at the cut section at the west end of North Bailly. In an effort to locate the source of failure, the signal maintainer made the usual checks of the track circuit including the relay, the transformer, fuses, rail, and bonds. However, the cause of failure was not apparent.

With the knowledge that no scheduled trains were forthcoming and that extra freight train #2005 was expected to enter the main track from North Bailly siding, the maintainer decided to temporarily exchange the track connections on track relay A472 to isolate the source of trouble. This change placed track relay A472 in phase with (at the same instantaneous polarity of) 472 track transformer located immediately east of the insulated joints. Track relay A472 energized as a result of this test.

As freight extra #2005 entered the mainline and proceeded west through track circuit A472, the maintainer observed that track relay A472 released but re-energized as the train neared the west end of track circuit A472. Consequently, the maintainer immediately restored the track relay connections to their original configuration.

The activities described above caused the eastward head block signal at the east end of Wilson passing track to momentarily display a PROCEED indication. This indication was observed and reported by a high-rail track inspector waiting for a meet with freight extra #2005. Simultaneously, a momentary CLEAR indication was also observed at the dwarf signal at the west end of North Bailly siding and reported by the crew of freight extra #2004. However, the responsibilities of train #2004 did not require movement out of North Bailly at that time. Hence, the signal was not passed.

After the maintainer returned track circuit A472T to its original configuration, track relay A472 would not re-energize because of the shorted insulated joint. Subsequently, the failed joint was discovered and replaced along with the damaged rail in North Bailly siding. Insulated joint and shunt tests were performed to check the vitality of the adjacent track circuits.

The maintainer was instructed that the troubleshooting procedure employed in this case was an unsafe practice. Maintenance practices, both good and poor, will continue to be the subject of ongoing maintainer training.

82	4/26/1996	CSXT	CTC			Train	None	CT Junction, Cincinnati, OH	N
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On April 18, 1996 at 0630 hrs Train Y322-17 reported receiving an APPROACH signal at signal 27L into a standing cut of cars. The signal system was removed from service. Signal personnel performed test and inspection and it was determined that a violation of operating procedures was evident with the Train Director and Signal Employees who were performing tests at this location. Investigation is pending. Signal system was returned to service.

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
129	12/17/1997	BNSF	CTC			EMD 9068	None	Crawford, Nebraska	N
<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>									
186	7/30/1998	BNSF	CTC			ZNBYWSP829	Switch CP 7816	Vaughn, New Mexico	N
<p>Train Z-NBYWSP8-29 was eastbound on the south track between Vaughn and Joffre, New Mexico. The train observed a CLEAR aspect for intermediate signal 7814. After passing the intermediate signal, approximately 1100 feet, the train encountered a reverse switch at a new control point CP7816 that was not in service. The train crossed over from the south track to the north track. The train stopped approximately .6 mile after crossing over to the north track. The dispatcher did have an opposing train lined on the north track approaching this location. The two trains got stopped approximately eight (8) miles apart.</p> <p>Cause: Signal personnel were pretesting the new crossover location preparing for in service testing scheduled for August 4, 1998. Switch clamps were removed from the switches anticipating a track window to test the switch operation. Track and time was denied by the dispatcher until one train ran. While waiting for track and time the signal personnel inadvertently threw the switch reverse while testing modules and looking for a ground on the operating battery.</p>									
320	4/4/2001	UP	CTC			UP3958 North	None	Gorham, IL	N
<p>On April 4, 2001 at 11:00 DST, at Groham, IL on the Chester Subdivision, northbound QNLPI-03 received a northbound DIVERGING CLEAR signal (Red over Red over Green) at CP D085 at MP 84.8 into a dark signal at CP C338.</p> <p>An investigation revealed that a signal gang, while cutting over new CP D338 had inadvertently applied battery to the 48DPR circuit which caused the DIVERGING CLEAR signal at CP D085.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									

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359	5/30/2002	NS	CTC			560C329	Human Error	CP-207, Elyria, OH	N
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On Thursday, May 30, 2002 at 11:00 a.m., Dearborn Division train 560C329, lead unit NS 9451, westbound on track 2 at MP-CD205.7, reported intermediate signal 205-2W to display a CLEAR aspect for its movement. This signal should have displayed an APPROACH aspect due to the next signal, the 2W home signal at CP-207, displaying a STOP aspect account train 15JB129 ahead in the block.

Train 560C329 was aware of a train ahead in the block and therefore stopped short of the 2W signal at CP-207.

Investigation revealed that a signal testman was performing relay testing at CP-207 at the time of the incident. The maintainer performed testing on the 2WAHR relay during the time that train 15JB129 was in the block, which involved false battery being applied to this relay. Testing on this relay had been performed without obtaining the proper track time authority, and without appropriate measures taken to insure safety of train movements.

Dispatcher logs indicate that the 2W home signal displayed a permissive aspect without being requested, and remained in that state for 41 seconds. Tests after the incident proved that the 205-2W signal would display a CLEAR aspect when false battery was applied to the 2WAHR relay at CP-207.

The signal system was tested for proper operation and restored to normal service at 2:00 p.m.

417	6/2/2003	UP	CTC			UP 2313	None	Rawlins, WY	N
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On June 2, 2003 at 12:15 CDT, in Rawlins, WY on the Laramie Subdivision, westbound IDUSE 31, on #1 track, reported the westbound approach signal to CP W678 at MP 673.3 was Yellow, and the westbound absolute signal at W678 was not called for, and was Red over Yellow, then went to Red over Dark, while the switch was lined normal.

An investigation revealed a signal gang, with track and time in the OS, was preparing circuits for a future cut over, and caused the westbound absolute signal at W678 to display other than STOP.

All applicable tests were performed.

No. of Reports Shown in this Listing: **8**