



## IronWood Technologies

Railroad Accident Reconstruction

## Federal Railroad Administration

### False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - State of Oregon

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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**Cause**

**Narrative**

484	5/14/1995	SP	CTC			BN 1BN681-13	Signal 316LB	E.E. Algoma, OR	Y
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**Scenario Reenacted, Unable to Duplicate, No Defects Found**

On May 14, 1995 at approximately 6:06 AM, BNRR crew (Engineer, Student Engineer, Conductor), operating BNRR train 1BN681-13 traveling west, reported to have entered the east end of Algoma siding with the facing signal displaying Red over Yellow, and while proceeding west on the siding, collided with the rear of Southern Pacific train 1CORVM-14 which was stopped in the siding.

Under the direction of the Signal Supervisor, train dispatcher WS66 was asked to duplicate the conditions under which the BN train 1BN681-13 entered the siding. When the switch at E.E. Algoma was reversed and the westbound was cleared into the siding, the facing signal displayed Red over Lunar. This test was repeated several times always with the same result.

The signal system was thoroughly tested and the pole line between East and West Algoma was also inspected. All tests showed the signal system to be working as intended with no exceptions.

The signal system was restored to service on May 15, 1995 at 4:30 PM.

534	11/16/1995	SP	AB			Work Train 7435	Signal 4279	Klamath Falls, OR	N
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**Human Error - Signal Circuit Design Error, Inadequate Service-Testing**

On November 16, 1995 at approximately 3:00 PM, Engineer operating work train no. 7435 traveling east, reported that while only half of his train had passed signal 4279, he observed that signal 4279 was Yellow instead of Red.

Under the direction of the Signal Supervisor, the signal system was thoroughly tested, and it was found that the 4274T and 4274AT track circuits did not slot the 4279H control. The problem was immediately corrected; the signal system was thoroughly tested and found to be working as intended with no exceptions.

The signal system was returned to service on November 16, 1995 at 6:30 PM.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
<b>538</b>	12/2/1995	SP	CTC			1EUDOQ-KO1, SP	Signal 50LB	Heather, Oregon	N
<p><b>Cause</b></p> <p><b>Narrative</b></p> <p><b>Scenario Reenacted, Unable to Duplicate, No Defects Found</b></p> <p>On December 2, 1995 at approximately 9:13 AM PST, Engineer was lined into the siding at East Heather for a meet with the 1LABRF2-01. The Digicon system showed that signal 50LB at West Heather was at STOP and the switch was normal with signal 50RA cleared for the 1LABRF2-01. [Engineer] later claimed that the signal 50LB was Green, after he ran through the switch and proceeded to East Wicopee.</p> <p>The Signal Supervisor repaired the damaged switch and then thoroughly tested the signal system, and found it working as intended with no defects.</p> <p>Signals were returned to service on December 3, 1995 at 5:00 PM PST.</p>									
<b>114</b>	4/15/1997	BNSF	CTC			UP-		North Portland Jct., Oregon	N
<p><b>Human Error - Field Wiring Error, Inadequate Service Testing</b></p> <p>At 12:30 IB 4/14/97, the signal crew cut several cables with the backhoe. It was determined that just one of the cables was being used, and the rest were abandoned. After the cable was spliced together, it was decided that since the cable from the U.P. signal to the case and the cable from the U.P. case to the BN case had not been disturbed, only the circuits between the BN case and the BN tower were tested.</p> <p>On 4/15 at 02:45, I was called back because the U.P. was investigating a false proceed. They said their Yellow repeater was being held up with 4 volts on the coil, and sending a Green back to their approach when the absolute signal at North Portland Jct. was Red. It was determined that the cable supplying N-10 to the U.P. case was not repaired. With this missing, and because the case battery negative, and the tower battery negative were tied together in the U.P. case, the B-10 connected to the UP-H relay found its way back to N-10 through the Yellow repeater in the U.P. case picking this relay, and causing a false proceed on the U.P. approach signal. The negative batteries were tied together by the U.P. in their case, but this was not shown on our print or theirs.</p> <p>The N-10 cable was repaired, and the negative batteries were separated in the case eliminating the possibility of a single fault in the N-10 allowing a track relay to pick up through the common negative.</p>									
<b>273</b>	6/12/2000	UP	CTC			UP-9709	Relay	Hood River, OR	N
<p><b>Failed Equipment or Device - Relay</b></p> <p>On June 12, 2000 at 14:49 CDT, at Hood River, Oregon on the Portland Subdivision at MP 61.40, westbound IG2SE 10 had gone by a Green westbound signal at MP 61.50 and looked back to see the eastbound signal at MP 61.40 displaying a Yellow aspect.</p> <p>An investigation revealed a broken armature pin in the 614 HR relay allowed the armature to twist allowing contact connection that false picked the HPR relay for the eastbound signal at MP 61.40, which caused the eastbound signal at MP 61.40 to display Yellow.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									

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687	2/13/2002	CORP	AB			CORP 3819	Aerial Cable	MP 550.4, Myrtle Creek, OR	N
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**Failed Equipment or Device - Aerial or Underground Cable, Shorted or Grounded (not due to vandalism or digging)**

The CORP 3819 was northbound at Myrtle Creek on 2/13/02. The crew reported a Dark signal at 550.4 and 551.2. While passing 551.2 they looked back at signal 551.3. 551.3 was showing an APPROACH while train was still occupying the block which it governed. I responded immediately and began shunting track circuits. I discovered the track relays were de-energizing, but the 5513HR and 5505HR would not de-energize. After checking the rints and pole line, I concluded that the aerial drop cable to signal 550.4 was shorted out between the 5513H and 5505H circuits. I set both the 5505 signal and the 5513 signal to their most restrictive aspects and informed dispatch. The next morning, myself and [ends in midsentence].

688	3/2/2002	CORP	AB			UP 2459	Semaphore Arm	MP 617.4, Curtin, OR	N
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**Failed Equipment or Device - Semaphore Signal**

0332 AM, March 2, 2002

The southbound 501, UP 2459, heading to Roseburg, passed semaphore signal 617.5. The engineer looked at the opposing signal, 617.4, and noticed that it was displaying a Yellow indication.

Upon arrival and inspecting, the signal relays, track relays and slot coil were energized, and signal 617.4 was still displaying a Yellow indication.

Upon further inspection to signal 617.4 the buffer for the 617.4 semaphore arm was immovable, held stationary, in its Red position. Inspecting the buffer the grease was stiff, to the point of being frozen. The buffer and buffer chamber were cleaned and new grease installed.

Signal location was then tested with shunts and train movement observed.

Weather conditions for the day of March 02, 2002: frost with patches of ice, outside temperature 33 deg.

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<b>380</b>	5/13/2003	BNSF	APB			H-BARVAW1-09	Switch Circuit Controller	West Deschutes, OR	N
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**Human Error - Field Wiring Error, Inadequate Service Testing**

At about 09:30 on 5/13/03, train H-BARVAW1-09 was headed eastbound on the Oregon Trunk when it stopped and the crew lined themselves into the siding at West Deschutes. The signal for movement over the switch should have dropped to Red when they threw the switch, but it stayed Green. The signal maintainer and signal technician went to the location and set the signals to STOP.

The signal maintainer installed new track wires at this location the previous week, from the track to the signal case. He inadvertently bypassed the switch circuit controller when he installed the new wires. He shunted both track circuits after connecting the new track wires, but he did not test the switch because he did not remember that the circuit controller was in the control circuit for the track relay.

The signal technician and maintainer found the old track wires and connected them and tested the system. The circuit was working correctly by 14:00, 5/13/03.

Reference signal trouble ticket number 872336.

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