



Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
646	8/25/2000	MRL	CTC			BNSF 4799	None	Missoula, Montana	N
<p>Cause</p> <p>Narrative</p> <p>Scenario Reenacted, Unable to Duplicate, No Defects Found</p> <p>On August 25, 2000 at approximately 08:27 hours, crew on eastward train STACSPM122 reported signal 1246 as displaying a Yellow over Lunar aspect when the next signal in advance at West Missoula was displaying a STOP aspect with the West Crossover lined reverse which was against the movement for this route. The proper aspect for signal 1246 at this time was Yellow.</p> <p>Signal Department personnel were immediately notified and investigated this incident. During this investigation, personnel performed operating tests, indication locking tests, ground tests, meggering tests of all involved cables, tested all involved relays, tested involved searchlight signal mechanisms, took voltage readings on all involved equipment and tested the involved Electrocode units.</p> <p>Signal Department personnel were unable to duplicate this alleged false proceed incident. All tests and inspections revealed the signal system functioned as intended.</p>									
651	11/26/2000	MRL	CTC			BNSF 1080	None	Drummond, MT	N
<p>Insufficient Information in Report to Assign Cause</p> <p>See attached [nothing attached].</p>									

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
657	2/27/2001	MRL	CTC			MRL 406	WP Circuit	Livingston, MT	N	
			Human Error - Field Wiring Error, Inadequate Service Testing							
			<p>On February 27, 2001, Signal Maintainer Mike Hardesty observed the 841 local crossing over from the east leg of the Y at Livingston to the yard when he observed the WP relay at Livingston Hump in the energized position. The WP relay should have been deenergized at this time since two of the 3 hand operated switches in this WP circuit were in the reverse position.</p> <p>Signal Department personnel immediately corrected the problem by making the appropriate circuit changes. Tests were performed to verify the signal system functioned as intended.</p> <p>Investigation by Signal Department personnel revealed that this problem occurred when signal crew 101961 cut over a new underground cable for the west leg of Y switch and thereby removed the WP circuit from the Yard Switch and east leg of Y switch. The Signal Foreman took full responsibility for this error and stated the error occurred because he did not know that all 3 switches were on the same WP circuit. The Signal Foreman was relieved of all Foreman responsibilities pending a fact-finding hearing.</p> <p>On March 9, 2001, a fact finding hearing was held to determine the facts involving this incident. In the fact finding hearing the Signal Foreman accepted full responsibility for this incident. The Foreman stated in the hearing that he thought this was a simple circuit change and did not see a need to consult with his Supervisor prior to performing the work. Although this was not intentional interference, this incident happened because the Signal Foreman interfered with vital circuits and did not make the appropriate tests to ensure the integrity of the signal system. Upon review of the official transcript, disciplinary action will be taken as deemed necessary.</p>							
681	11/1/2001	MRL	CTC				Phantom Aspect	Helena, MT	N	
			Phantom Signal - Due to Sun Angle							
			See attached [nothing attached].							

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

689 2/26/2002 MRL CTC BNSF 1016 None Eddy, MT N

Scenario Reenacted, Unable to Duplicate, No Defects Found

On February 26, 2002, Engineer on train XPASABE123 reported that while approaching eastward intermediate signal 240, the signal was first observed as displaying a Green aspect, then the signal was observed as displaying a Flashing Yellow aspect. The proper aspect for signal 240 at this time was Flashing Yellow account the eastward absolute signals at East Eddy were Red.

Signal Department personnel promptly investigated this incident. Personnel checked the electronic log reports for the HLC equipment at East Eddy and West Eddy which revealed the signal system was functioning as intended. Personnel checked the electronic data log reports for Digicon, which revealed the system was functioning as intended. Personnel checked the electronic data logger report the the Electrocode equipment at signal 240, which revealed the signal system was functioning as intended with signal 240 displaying a Flashing Yellow aspect at the time of the occurrence.

Signal Department personnel also performed operational tests, performed relay tests, megging tests, tested relays, performed ground tests and inspected wiring. Subsequent to tests, signal system functioned as intended.

Signal Department personnel were unable to duplicate this alleged false proceed incident. All tests and inspections revealed the signal system functioned as intended.

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

700	8/22/2002	MRL	CTC			BNSF 5447	Switch Machine	Reed Point, MT	Y
-----	-----------	-----	-----	--	--	-----------	----------------	----------------	---

Maintenance - Worn Components Not Replaced Prior to Incident

On August 22, 2002 at approximately 10:29 hours, eastward train UP 4978, train symbol ESPBDM029, derailed 3 locomotives and 16 cars at West Reed Point. Engineer on train ESPBDM029 reported that he observed the eastward absolute signal at West Reed Point as displaying a Green over Red aspect with the switch points for the West Siding Switch open. Train ESPBDM029 split the switch and derailed 3 locomotives and 16 cars.

Preliminary investigation by Signal Department personnel revealed the absolute signal at West Reed Point was displaying a Green over Red aspect with the switch points open as reported by the Engineer on train ESPBDM029. At the time the derailment occurred, the point detector rods was broken and the switch was indicating in the normal position with the switch points gapped open along with bent switch rods.

Signal Department personnel revealed the cause of the failure to be a combination of a broken point detector rod, a missing wear plate under the lock rod on the field side of the GRS Model 5D switch machine and wear under the lock rod on the field side of the switch machine frame. The wear plate was found in the bottom of the switch machine with a broken pin that secures the wear plate in place under the lock rod on the switch machine frame.

The missing wear plate which was 0.093" thick and 0.028" wear on the frame of the switch machine permitted the lock rod to sit 0.121" lower in the switch machine than normal. This resulted in permitting the point detector yoke to move an additional 1/16" before resting on top of the lock rod clips. This was enough movement to permit the point detector to indicate in the normal position with the switch points in the reverse position.

Furthermore, it was determined that the west siding switch had been run through by two westbound trains prior to the derailment. Westward train BNSF 5447, train symbol VKCMTAC820 ran through the switch at approximately 7:42 hours. At this time the switch points were lined for the reverse position and indicating in the normal position. Westbound train BNSF 4398, train symbol HKCKPAS119 also ran through the switch at approximately 7:56 hours. Both trains were on the Main Track and the westward signal for the Mian Track at West Reed Point displayed a Green signal aspect for both trains. Neither train crew reported a signal failure at West Reed Point prior to the derailment. The train crew on train VKCMTAC820 did notify the Dispatcher after hearing about the derailment and reporting that they thought the switch was lined against them at West Reed Point but they were not positive so they didn't file a report.

Signal Department personnel replaced the switch machine at West Reed Point and have checked the wear plates and performed a switch point integrity test on all power operated switch machines on Montana Rail Link.

No. of Reports Shown in this Listing: 6