



# IronWood Technologies

Railroad Accident Reconstruction

## Federal Railroad Administration

### False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - 1998

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
179	1/1/1998	BNSF	CTC			BNSF9783, E-PAM	OS Track 5	Rosedale, KS	N
<p>Train E-PAMBAM-322, Engine BNSF 9783 was following the EB-FMFWKS-0130 at Rosedale, KS. The first train was lined into the siding toward the UPRR connection with the #5 switch reversed. The train disappeared from the signal system and CTC system onto dark territory. The switch was aligned normal and the 6L signal was cleared with a Yellow over Red for the second train. As the Engineer rounded the curve just south of Rosedale he saw the rear end of the first train fouling his track. He stopped his empty coal train short of the signal and called the dispatcher.</p> <p>The Signal Supervisor and Maintainer arrived and observed the situation. The dispatcher was again contacted and asked for time to test before running the second train. The turnout of the 5 Track at the power switch #5 was tested and revealed the long fouling jumpers were both open and were ineffective. The 5 TR had .7 volts on the relay with the shunt down on the turnout.</p> <p>The long fouling jumpers were replaced. The circuit was again tested and worked OK. The system was put back in service and left working as intended.</p>									
181	1/3/1998	BNSF	CTC			H-BARGAL1-03, E	2E Signal	West Baca, New Mexico	N
<p>At 2224 hours on January 3, 1998, train H-BARGAL-1-03 was stopped at the 2E signal at West Baca waiting for train ahead to clear the plant at East Baca. When the train ahead cleared the plant at East Baca, the 2E signal at West Baca displayed a Yellow over Green aspect. This signal should have been Yellow over Red.</p> <p>Signal tests revealed that this could be duplicated. The problem was found to be an AAR washer had fallen down between two terminals on the back of the H-2 mechanism at East Baca. This washer bridged two terminals thereby falsely energizing the 2E signal at West Baca.</p> <p>The washer was removed and signal system restored.</p>									
592	1/5/1998	CC			ATS		FP-CL	East Absolute C.L. Signal, Lake Oley	N
<p>False proceed signal east absolute C.L. signal Lake Oley.</p> <p>On 1/5/98 at 20:12:00 EB train I12 reported a cab and field signal CLEAR 5 car lengths west of Lake Oley and did not drop Red until the westbound was at Best Wall switch at MP 371.7. The WB CC2000 train reported CLEAR signals from Dumcombe to first Red at 371.7.</p> <p>There were 2 H wires wrapped together at MP 372.1. The insulator was broken possibly due to the ice, which caused the wires to wrap. Trouble cleared at 22:45.</p>									

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<b>201</b>	1/10/1998	UP	AB			UP 6060	AK Card in Electrocode Unit	5 Miles South of Ogden Jct., TX	N
<p>On January 10, 1998, at 06:00 CST, on the Austin Subdivision, south of Ogden Jct., Texas, northbound MLDLI 09, on track 2, observed northbound signal at Mile Post 241.6 Green with the next northbound signal at Mile Post 238.4 Red and the track north of Mile Pole 238.4 occupied.</p> <p>An investigation revealed a defective 4K card in the Electrocode unit at Mile Post 241.6.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
<b>437</b>	1/11/1998	CSXT	CTC			Z35610	N/A	NAS Wauhatchie, Chattanooga, TN	N
<p>On Sunday, January 11, the AJ dispatcher line Norfolk Southern (NS) NAS Wauhatchie on the Chattanooga Subdivision for NS train Z35610. Z35610 passed the Wauhatchie signal at 0034 and passed a STOP signal at Wildwood at 0040. The signals at NS NAS Wauhatchie were removed from service.</p> <p>A re-enactment of the situation by signal personnel revealed that the aspect at NS NAS Wauhatchie had improperly displayed a MEDIUM APPROACH MEDIUM (R/Y/FG) instead of MEDIUM APPROACH (R/Y) into the STOP aspect at NAS Wildwood. Further investigation revealed a ground in the twist wire that had been installed to temporarily repair the code line due to a recent wire theft. The wire had been damaged by placement of new rail beside the track. The ground caused 4.5 VDC to be placed on the 2RD relay at Wauhatchie. The improperly energized RD circuit caused a Flashing Green signal to be displayed at Wauhatchie in addition to the R/Y signal.</p> <p>The circuit tested clear after the wires were repaired and the signals returned to service. Electronic track circuits were installed in this section and placed in service on January 21.</p>									
<b>593</b>	1/11/1998	KCS	CTC			NS 314 A7	A04XTR	Meridian, MS	N
<p>At 02:30 hrs on 1/11/98 Norfolk Southern's NS 314 A7 was traveling north on the NS northbound main at Meridian, MS and reported they received a Yellow aspect at signal 04, when they reached the crossover they realized that #6 Switch was lined against their move.</p> <p>Please see attached memo from Signal Supervisor for details of investigation, the problem found and the preventative action taken. Also attached is a track diagram of this location.</p>									

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<b>180</b>	1/12/1998	BNSF	AB			UP-INOLB1-11	Signal 1745	Midland, LA	N
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At approximately 10:30 AM a westbound crew on Union Pacific train INOLB1-11 near Midland, Louisiana reported they were at signal 1745 on the main track near the east side track switch with a Green signal which should be Red account an east bound train had left the west switch reversed after they previously cleared the main for a meet.

The train crew verified the switch was still lined for movement to the side track and reported to the dispatcher that signal 1745 was false cleared over the reversed switch. With that operations were suspended in the area and signal personnel notified.

Relief Signal Maintainer and Signal Inspector responded immediately to the call and interviewed the crew for pertinent information, with Signal Supervisor responding to help with the investigation and corrections as needed.

Investigation revealed a large willow tree had been blowing into the pole line during the storms that day causing the 55PC line wire to be hard wrapped with the 45G7 signal control wire spanning out the 1NWPR switch repeater contact thereby false clearing signal 1745.

The line wires were unwrapped, the trees and brush were cut, the pole line inspected for other possible wraps, signals tested and placed back in service with all ok.

<b>595</b>	1/14/1998	INOX		Automatic	None		1342 Approach Signal	Lima, Ohio	N
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Approach Signal 1342 on northbound approach to the Conrail Sugar Interlocking, Lima, Ohio displayed a Green aspect into a Red home signal at the interlocking. This condition was caused by the control wires 1342 HD and N1342 ND having been transposed where the line wire and aerial cable junction at MP 133.45. This condition was discovered about 9:00 A.M. on 1/14/98 and corrected and placed back into service at 2:30 P.M. The discovery of the false proceed was made by RailTex and RCL signal personnel while making routine tests of the system. It is unknown how long this condition existed, but it appears to have been wired in when the aerial cable was installed several years ago. RailTex acquired this property less than a year ago from the Grand Trunk Railroad.

<b>594</b>	1/14/1998	INOX		Automatic	3802		Approach Signal #8	Liberty Center, OH	N
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It was reported by the train crew on train no. 261-14 that they received a Green approach signal northbound at signal #8, MP 82.22 into a Red-over-Red home signal at the interlocking. This was confirmed by the signal MTR who was near the interlocking at the time of the report. The signals were taken out of service and the incident was investigated by both RailTex and RCL personnel. After the signal, MTR duplicated the false proceed by placing a shunt in advance of the approach and witnessing the Green into a Red. Further attempts to duplicate the incident failed. The pole line was walked out and at MP 82.9, it was found that the 8HR1 and 8DR1 were untied on the pole and nearly touching by means of a tie wire. This would cause both the 8DR and 8HR relays to be energized simultaneously, causing a Green into a Red.

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182	2/2/1998	BNSF	CTC			LKAN677	Color Light Signal	Arcadia, KS	N
<p>Dispatcher reported to Signal Operations Center, the LKAN677, a northbound local, was following the Q-MEMSSE1-2 at North Arcadia. When the local left North Arcadia they had a Yellow signal. At the first intermediate signal, 114.6, they saw it Red, then change to Green. The local crew thought the train they were following was not far enough ahead for them to have a Green at 114.6.</p> <p>Signal Supervisors were called to investigate, joining them were Signal Inspector and Maintainer.</p> <p>It was determined that the color light signal at 114.6 was wired so that if the Electrocode 4 was receiving a code 2, the signal would display a Green aspect and if the EC4 was receiving a code 4, the signal was also Green. It was found that the yellow lamp was missing a strap in the signal head. Without this strap the yellow lamp would never be lit. Also, in the case, the yellow and green wires were reversed. This caused the signal to be in a "light out condition" causing the EC4 to downgrade the signal to yellow. With the wires reversed the yellow energy was applied to the green lamp wire, so that the signal would display Green any time a yellow was called for by the EC4.</p> <p>The strap was installed and the wiring was corrected. The signal was tested and checked OK. The system was left working as intended.</p>									
183	2/10/1998	BNSF	CTC			BN9669E	Signal 142.8	Electra, TX	N
<p>Engineer on BN9669E reported that Signal 142.8 was Green in approach to a Red signal at Signal 138.8 at 10:01 PM. The trick dispatcher held trains until the related signals could be turned to their most restrictive aspect (Red). We released the trains from the area, so that testing could be initiated. Signal Supervisor, Signal Inspector, and Signal Maintainer began testing at approximately 1:15 AM. After testing the signal at 142.8 it was discovered that following some wiring changes made by two Signal Inspectors on 12/8/98; a polar adapter module had been left on an Electrocode 2 unit. The adapter would not allow the SA mechanism to pole change to a Yellow signal. After the module was removed the signal system was tested and all OK'd. The signal system was returned to service and the dispatcher at 1:45 AM. Formal investigation is scheduled.</p>									
438	2/28/1998	CSXT	CTC			Q21327	None	Potomac Run, Fredricksburg, VA	N
<p>On February 28, 1998, Q21327 was traveling south on the RF&amp;P subdivision on signal indication. The engineer called a CLEAR signal at the Potomac Run intermediate signal (633A). He noticed that the cab signal displayed APPROACH as the train passed signal 633A. The crew proceeded observing the most restrictive indication, the cab signal. The crew notified the dispatcher of the conflicting indications. The signals were removed from service.</p> <p>Signal personnel were dispatched to investigate. The investigation revealed that the wrong relay had been altered during a consolidation of stand alone dragging equipment detectors to a combined equipment defect detector at Ross. The alteration to the DR relay vice the DEDPR relay resulted in the signal displaying a CLEAR aspect whenever code was received at the signal. The signal did display a Red aspect when no code was received at the signal.</p> <p>The circuit was rewired to alter the DEDPR relay and the signal was returned to service after all operational checks were completed.</p>									

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<a href="#">203</a>	3/7/1998	UP	CTC			Amtrak #6	None	Citrus Heights, CA	N
<p>On March 7, 1998 at 1000 PST, on the Martinez Subdivision at Citrus Heights, CA, eastbound Amtrak #6, on the main track and was lined from 2 Tk to 1 Tk, observed the approach signal 2E to Citrus Heights at MP 99.4 Green with the Home signal at Citrus Heights Red over Green.</p> <p>An investigation revealed the pole change wires on the FYR at signal 99.4 were reversed causing incorrect polarity to the HPR relay.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
<a href="#">192</a>	3/10/1998	NS	CTC			UP 2961	Poleline	Sidney, IL	N
<p>At approximately 8:55 PM, westbound train No. 71 reported the distant signal to East Sidney, displayed ADVANCE APPROACH and the East Sidney home signal displayed STOP. The 325.8 signal should have displayed APPROACH because East Sidney had not been lined for No. 71's move due to train No. 409 working between the switches at Sidney.</p> <p>Signal personnel called to investigate confirmed the ADVANCE APPROACH aspect into a STOP. This was caused by false energy on the 3258BH relay that controlled the bottom yellow. The false energy was the result of a line wrap between the 3258BH wire and the 32695TP wire at milepost B-327.1. Though the two line wires were tight and tied-in, we suspect the 50 MPH + wind gusts on the previous day had blown something into the line resulting in the wrap. The wrap was removed, the signal system verified to be working as intended, and signals were returned to service at 12:45 AM, 3/11.</p> <p>To keep this from recurring, the ADVANCE APPROACH aspect has been eliminated on this signal. Instead of getting an ADVANCE APPROACH when East Sidney is APPROACH, signal 325.8 will repeat the yellow at East Sidney. This is a temporary fix since the poleline is to be eliminated and aspects will change in conjunction with a new NS/UP connecting track to be installed here in the near future.</p>									
<a href="#">596</a>	3/11/1998	AMTK		Remote		NA	63R	West Cambridge, MA	N
<p>Mr. James Hoffnagle of the FRA reported to [redacted] Assistant Division Engineer C&amp;S MBTA for Amtrak, that signal 63R at West Cambridge Interlocking displayed APPROACH MEDIUM with a route displayed over #52 crossover which is a #15. It was determined that circuit design of the 63R would allow APPROACH MEDIUM aspect to be displayed thru the #52 crossover reverse. Circuitry was redesigned, operational tests made and no exceptions taken.</p>									
<a href="#">204</a>	3/11/1998	UP	CTC			UP 8197	None	Colton, UT	N
<p>On March 11, 1998 at 2300 MST, on the Provo Subdivision at Colton, Utah, eastbound CTVSV-04, on the main track, observed the eastbound signal at MP 644.7 display a momentary Green with the track circuit east of the signal at MP 644.7 occupied.</p> <p>An investigation revealed momentary loss of shunt in the occupied track circuit east of signal at MP 644.7 caused the momentary Green signal at eastbound signal at MP 644.7.</p> <p>All applicable tests were performed.</p>									

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<b>193</b>	3/16/1998	NS	CTC			8945-6678	Poleline	Clymers, IN	N
<p>At approximately 3:45 PM, train No. 183, running westbound, reported receiving a CLEAR signal at the East End Clymers and then a STOP signal at the West End Clymers. Being in radio contact with opposing train D93 west of Clymers, they were aware of the false signal and were able to stop before passing the STOP signal.</p> <p>Signal personnel were called to investigate and found from TC loggers that there was an indication of a westward signal lined at West End Clymers, not requested by the dispatcher, at the time that train 183 saw the CLEAR at East End Clymers. In the field, the same scenario was set up and proved that a westward CLEAR was displayed at East End Clymers while a STOP was displayed at West End Clymers. The cause was a falsely energized 500 ohm relay (LAYGP) at West End Clymers which resulted in the improper pole change back to East End Clymers. The relay was falsely energized by three volts caused by two separate line wraps in two different spans within the plant at West End Clymers. The LAYGP also tumbled down the eastward signals on train D93 and gave the false indication of a westward signal at West End Clymers.</p> <p>The wraps were corrected and the system retested to verify proper operation. The line wires involved were properly slacked and tied in. It was suspected, but never proved, that a truck hit a pole and caused at least one of the wraps. High winds in this area on previous days were suspected of causing the first wrap. Neither wrap on its own would have caused this problem.</p>									
<b>597</b>	4/3/1998	SCRA	CTC			Eng. #876	EC-4H/VHLCprog.	Glendale, CA	N
<p>Added "Joint Hop Logic" to Executive Software [see printed report]</p>									
<b>205</b>	4/23/1998	UP	CTC			UP 469W	None	Centertown, MO	N
<p>On April 23, 1998 at 10:10 CDT, on the Sedalia Subdivision at Centertown, Missouri, westbound WPFLWB21, while stopped in the siding 200 yards east of control point M142, observed a Yellow indication from the signal to leave the siding, with the switch lined normal.</p> <p>An investigation revealed a phantom indication in the signal to leave the siding was caused by the sunlight washing out the Red signal and making it appear Yellow.</p> <p>Shields were applied preventing the phantom signal, and all applicable tests were performed.</p>									
<b>439</b>	4/24/1998	CSXT	CTC			Q21922	None	Godsend, Fostoria, OH	N
<p>At about 10:48 AM on April 24, 1998, the crew on train Q21922 viewed a CLEAR aspect on the #10 signal (LE&amp;W) westbound on number one track at Fostoria, Ohio and a LIMITED CLEAR aspect at the absolute W1 signal at Godsend. The crossover was reversed for a movement from number one to number two track. The aspect should have been an APPROACH into a LIMITED CLEAR. The signals were removed from service pending investigation by signal personnel.</p> <p>Signal personnel investigated the problem and verified the aspects as described above. The problem was identified as a wiring problem in a temporary case. The temporary case contained an Electrocode 4H. The wire for the Code 7 decoder was on the Code 3 decoder post. This caused the false proceed. The wire was returned to its proper post. Operational tests were performed and the signals were returned to service on April 25, 1998.</p>									

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206	4/30/1998	UP	CTC			SP 6823	None	near Millican, TX	N
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On April 30, 1998 at 16:30 CDT, on the Ft. Worth Subdivision, north bound RSPOG 29 observed a Yellow over Green indication at the north bound approach signal at MP 56.8 with the next north bound home signal at control point Q058 displaying a Red over Yellow indication with the track lined for the siding.

An investigation revealed the north bound signal at MP 56.8 should have displayed a Yellow over Yellow indication with the control point Q058 lined into the siding.

The north bound signal at MP 56.8 was changed to display a Yellow over Yellow indication with the control point Q058 lined for the siding. All applicable tests were performed.

184	5/4/1998	BNSF	CTC			CNW8820	None	Logan, WY	N
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At approximately 2115MDT Signal Maintainer was notified of a switch out of correspondence and a track indication on main track 2 at crossovers 72.5. On inspection maintainer found 3B moveable point frog and 3A switch had been trailed through and sustained bent throw, lock and point detector rods on both switch layouts. Dispatcher was notified to stop train movements and Signal Supervisor and Signal Manager were notified. Vital Harmon Logic Controller logs were obtained and it was determined that at 21:05:23 MDT the C&NW 8820 coal train CANN0478 with 107 loads and 0 empties 14980 tons, had received a Red over Yellow DIVERGING APPROACH on the 1E signal over crossover main track 1 to main track 2 and had trailed through the 3B moveable point frog and 3A switch in the reverse position. Train crew was unaware they had trailed through the reversed frog and switch. Crossover at 72.5 had been reconfigured same day, with preliminary changes made to have the new crossover from main track 1 to main track 2 used in hand throw only, and the existing crossover from main track 1 to main track 2 was removed from service to allow reconfiguration for addition of third main track and final cutover on May 6. In an effort to expedite traffic during the track changes, Signal Supervisor used existing control and indication circuits from the retired crossover to control and indicate the new main 1 to main 2 crossover using the existing VHLC program. External Indication Locking tests were performed on all switches and moveable point frogs and all showed correct normal and reverse correspondence with the VHLC. Supervisor assumed that since no VHLC software had been changed that it was not necessary to check switch indications against clear signals over affected routes. As a result of moving control and indication circuits from the retired crossover east of 3 crossover to the new crossover west of 3 crossover neither the 1EBHGR or the 2WBHGR checked the 3 crossover switch correspondence. A 1EB signal was requested over main track 1 to main track 2 crossover and the 3 crossover reverse and the eastbound CNW 8820 proceeded on a APPROACH DIVERGING splitting the 3B moveable point frog and the 3A switch.

CORRECTIVE ACTION: 3B moveable point frog and 3A throw, lock, and point detector rods repaired, adjusted and tested switches for indication correspondence and returned to service at 0300 MDT May 5th. Main track 1 to main track 2 crossover removed from service until May 6th, when new VHLC program was installed and signal cutover performed.

Investigation scheduled with Signal Supervisor.

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598	5/4/1998	RBMN	AB			2396	C1741A	Dupont, PA	N
<p>Signal C 1741, MP 174.1, Lehigh Main Line was observed by an eastbound train displaying APPROACH while the block it governed was occupied.</p> <p>Investigation revealed that the signal was vandalized by trespassers throwing rocks, breaking the lenses causing glass to fall into the SA mechanism lodging it in the Yellow position.</p> <p>Lenses and mechanism were replaced and signal tested and restored to service.</p>									
194	5/5/1998	NS	CTC			6626-8947	Arrestor	Carbo, VA	N
<p>Train No. J62U705, operating the two units as a pusher, had entered the CV main off the west leg of the wye at Carbo on signal indication. After he moved from unit 8947 to unit 6626 to change direction, the Engineer observed he had an APPROACH DIVERGING for his eastbound movement at Carbo. Shortly after he started his eastbound move, the CV dispatcher contacted him giving him permission to pass the next signal into the siding at Mill Creek and couple to train No. 572. When the Engineer told the Dispatcher that his last signal displayed APPROACH DIVERGING instead of APPROACH, the dispatcher had him stop his train and then called signal personnel to investigate.</p> <p>Signal personnel arrived and had train No. J62U705 back west of the signal at Carbo. They then had the dispatcher set up the same scenario and were able to see the false proceed about five minutes later. Investigation revealed that there were three badly burned lightning arrestors in a pole mounted junction box at Carbo. Each of these arrestors was partially grounding the circuit to which it was attached. One was on the BP circuit which had 12 VDC on it at the time. The positive side of the BD relay for the eastward signal was also grounded by one of these arrestors and had 5.2 volts on it which was found to be coming from the BP circuit ground. The arrestors were replaced and the signal system tested for proper operation before being returned to service.</p> <p>A recent lightning storm had likely caused the multiple ground condition by severely burning these three arrestors.</p>									
599	5/14/1998	CR	AB			SFEL3	Sig. 425.4	Elkhart, IN	N
<p>Automatic signal 425.4 displayed APPROACH aspect with train in block. Cause was found to be two shorted insulated joints and an open track wire from switch circuit controller allowing 9ct track relay to become energized with battery from adjacent track circuit.</p> <p>Corrective Action: Installed biased track relay and insured opposite polarity across insulated joints.</p>									
600	5/15/1998	CR		Remote		Unknown	Signal 6W-4	Toledo, OH	N
<p>Signal 6W-4 at Nasby Interlocking displayed a SLOW CLEAR aspect with signal 1WB ahead at STOP. Cause was found to be a design error which omitted a #3 switch in the home network of signal 6W-4. The controls for 6W-4 signal have been opened in the field to prevent 6W-4 from displaying better than SLOW APPROACH. New design will be issued, installed and tested as soon as practicable.</p>									

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601	5/17/1998	INOX	CTC			3807	60R	Cincinnati, OH	N
<p>On May 17, 1998 at approximately 07:00 AM vandals set fire to a pole and cables at Mile Post 10.9 Ridge Interlocker. The signal Maintainer was called at 9:00 AM and found the power and 7 conductor destroyed. Repairs began about 12:00 PM and were complete about 06:00 PM. During reconnection the H's for the 60R signal were transposed, which gave a Green signal instead of a Yellow into a Red. The signals were put back into service.</p> <p>At 10:45 PM the Signal Dept. was informed of the false proceed and took the signals out of service. The problem was found and corrected. The signal system was tested and put back into service.</p>									
195	5/25/1998	NS	AB			9057	Design	Hattiesburg, MS	N
<p>At approximately 4:30 AM train No. 314 reported a CLEAR signal northward at Hattiesburg Interlocking and a STOP indication at the next signal, N.E. Hattiesburg.</p> <p>No. 314 had left part of its train on the main south of the interlocking and proceeded on signal indication north of the N.E. Hattiesburg. They then reversed the switch and made a reverse move into Hattiesburg Yard to make a pick up. After returning to the main and restoring the switch, No. 314 moved southward with the proper Red signals at N.E. Hattiesburg and Hattiesburg Interlocking to couple to their train. They then proceeded north with a CLEAR at the interlocking and found a STOP at the N.E. Hattiesburg.</p> <p>Investigation revealed that a southbound movement at N.E. Hattiesburg when cars were occupying the track south of Hattiesburg Interlocking enabled a circuit path at N.E. Hattiesburg permitting a CLEAR code back to the interlocking while a STOP was displayed at the N.E. Hattiesburg. The design was corrected and the signals were thoroughly tested.</p>									
207	5/27/1998	UP	AB			SP 7798	None	Pence, IL	N
<p>On May 27, 1998 at 17:59 CDT, on the Chicago Subdivision at CP 1050, southbound ZYCFW 27 had a CLEAR signal through the Pence interlocker, while a westward Conrail crew reported a Green over Red home signal at Pence interlocker.</p> <p>An investigation revealed that Conrail's westbound high green signal's back door was open, and the sun shining through gave a Green indication.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
602	6/5/1998	CR		Remote		CSXT 913	Home Signal 8W	Buffington, IN	N
<p>Crew on CSXT 913 reported signal 8W at CP 501 displayed Red over Lunar White (RESTRICTED PROCEED) with a westbound Amtrak train occupying interlocking. Investigation found that vandals had broken the lock and hasp and removed the cover from the center lunar light unit on signal 3W allowing sunlight to enter the rear of the unit which illuminated the white lens. Cover was replaced and local police notified.</p>									

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603	6/18/1998	CR	CTC			CP 5616	Auto. Sig. 94E	Castasauqua, PA	N
<p>Signal control wires terminated in switch location junction box reconnected on opposite terminals reversing polarity and allowing Sig. 94E to display CLEAR with signal 2E at CP Caty at STOP. Wires were properly connected, all tests performed and signal system returned to service.</p> <p>Investigation is being held to determine responsibility.</p>									
440	6/22/1998	CSXT	CTC			Q50321	None	NE Weston, Weston, OH	N
<p>On June 22, 1998, the southbound Q50321 reported a CLEAR signal at the NE Weston and a STOP signal at the SE Weston. The signals were removed from service and signal personnel dispatched to investigate. The situation was simulated by the signal personnel and the false clear was confirmed. The investigation revealed that reverse polarity on a pair of HD wires had caused the false clear signal. The polarity of the HD wires was corrected and the signal system was tested and returned to service.</p> <p>A signal maintainer was called to investigate a problem at the SE Weston on June 14. The maintainer identified the problem as an open in the HD lines and changed to a pair of spare wires. He placed two spare wires on each of the open cable wires marked R22HD4 and NR22HD1. He then went to the Taylor St. crossing warning system and jumpered the wires together to complete the circuit from the SE Weston. The maintainer checked voltage to verify the circuit but failed to perform an adequate operational test of the circuit before returning the signals to service. The polarity of the circuit was inadvertently swapped by the maintainer. This was determined to be the cause of the false clear.</p>									
196	6/24/1998	NS	CTC			CR 6116	Vandalism	Westminster, SC	N
<p>At approximately 8:15 AM, train No. 266 was northbound on Track #1 when the crew observed the signal on Track #2, signal 532.2, displaying what appeared to be an APPROACH DIVERGING, Yellow over Green. Since they had a CLEAR signal on their track, they knew they were lined onto single track at Jason, and the signal on Track #2 should not have been better than APPROACH. They reported this as a false proceed to the dispatcher.</p> <p>Signal personnel were called to investigate and found that the door was open for only the green aspect in the bottom color light unit. Sunlight was shining through the lens on this signal that was facing almost due west due to the track alignment at this point. Compounding the incident was the fact that the bottom red which should have been lit was burned out. Had the bottom red been lit, this would have been an improper signal.</p> <p>The screw-lock that secured the signal doors had been removed, apparently by an outsider. The signal was secured with a padlock to prevent recurrence.</p>									
208	6/24/1998	UP	CTC		ACS	6201	None	Rawlins, WY	N
<p>On June 24, 1998 at 18:27 MST, on the Laramie Subdivision at MP 681.2, eastbound AMLKCX 22 reported the eastward signal from the South Runner to the #2 Main was Red over Yellow into a normal switch.</p> <p>An investigation revealed that the sunlight washed out the lower red aspect and it appeared to be a Yellow aspect.</p> <p>Phantom screens were installed, the signal system was restored to proper operation, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
604	7/9/1998	CR		Remote		Amtrak 286	Home Signal 1WB	Albany, NY	N
<p>Westbound Amtrak 286 reported CLEAR signal with the switch normal on 1WA signal at CP 146 and he observed a Red, Red, Green SLOW CLEAR signal on 1WB signal out of the siding. Investigation revealed that the contacts on the 3RWCR B2 plug in relay were shorting together allowing energy to pick the 1WBCHR. It was determined that the relay had been removed from the plug board 2 days earlier to be tested and that the contacts were bent when the relay was reinserted into the plugboard.</p> <p>Relay was replaced, all tests performed and the interlocking was returned to service. Discipline will be assessed to involved employees.</p>									
209	7/9/1998	UP	APB			UP 2256	Switch Circuit Controller	Conway, AR	N
<p>On July 09, 1998 at 00:30 CDST, on the Coffeyville Subdivision at the south end of Conway, MP B371.9, northbound Local LVR56-08 stopped and lined the switch for the siding and observed the northbound signal stay Green.</p> <p>An investigation revealed that the switch circuit controller rod had fallen off the controller.</p> <p>The switch rod was replaced, the signal system was restored to proper operation, and all applicable tests were performed.</p>									
441	7/17/1998	CSXT	CTC			U241	None	Three Mile, Mobile, AL	N
<p>Shortly before 0800 on July 17, a signal maintainer was dispatched to the scene of a run through electric lock switch just south of Three Mile Drawbridge. The signal maintainer arrived at 0830 and found southbound train U241 stopped just north of SAS Three Mile with a STOP aspect. Shortly thereafter, SAS Three Mile changed to a CLEAR aspect. The maintainer observed the switch operating handle vertical and immediately checked the NWPR. The maintainer removed the signals from service upon finding the NWPR deenergized.</p> <p>Investigation determined that a design defect caused a CLEAR signal to be displayed with the A-BNWPR deenergized. The A-BNWPR protects the electric lock switch which was installed as part of a speed increase early in 1998. The A-BNWPR was rewired to be in series with the lock time relay, track release circuit, and H+ input of the HD polar adapter. The HD polar adapter device is configured to provide a reverse polarity output when there is battery input to the H+ terminal. A normal polarity output is given when there is battery input to the D+ terminal. A battery input to the H+ terminal is not required for normal polarity output.</p> <p>The defect was corrected by relocating the track A-BNWPR, WLTER, and A_BTOR control of the 6633HDR from between the Electrocode unit and HD polar adapter to between the HD polar adapter and the positive control of the 6633HDR. Operational tests were made and the signals were returned to service the evening of July 17.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
<a href="#">210</a>	7/18/1998	UP	CTC		ACS	UP 9507	75 Code Transmitter	Rawlins, WY	N
<p>On July 18, 1998 at 07:309 CDST, on the Laramie Subdivision at Rawlins, WY, westbound ZAPLA-16 observed the westbound CP-W680 was Yellow with a Green CAB, and westbound CP-W681 was Red with a Red over Yellow CAB. The ZAPLA-16 was following another train.</p> <p>An investigation revealed that the eastward 75 Code Transmitter Relay at CP-W681 was coding faster than 75 because of a bad contact, which caused the eastward cab code at CP-W680 to upgrade the code to a Green (180 code rate).</p> <p>The 75 Code Transmitter Relay was replaced, the signal system was restored to proper operation, and all applicable tests were performed.</p>									
<a href="#">442</a>	7/20/1998	CSXT	CTC			Q59221	RCRE Cable	NE Lilly, Lilly, GA	N
<p>On July 20, train Q59221 reported observing a CLEAR signal on the main and a MEDIUM CLEAR on the dwarf signal at the north end of Lilly. The signals were removed from service and signal personnel were dispatched. Upon arrival, signal personnel found the train on the OS circuit. The signal on the main displayed STOP while the dwarf signal displayed a MEDIUM CLEAR.</p> <p>Investigation revealed that the RCRE cable had been pinched in the door to the dwarf signal the last time the signal was closed. The signal went to STOP when the door was opened and the cable moved. The RCRE cable was repaired and the flex wires inside the dwarf signal were replaced.</p> <p>The signals were returned to service after performing operational tests, megging cables and checking for grounds.</p>									
<a href="#">185</a>	7/27/1998	BNSF	AB			MDENGAL3 - Engin	Pole Line Wire	Ottumwa, Iowa	N
<p>Train MDENGAL3-26 reported signal S277.8 Green and signal S275.6 Red as he was following an eastbound train. Signal Supervisor, Signal Inspector and Signal Maintainer placed shunts to simulate the train position and discovered that the "D" upgrade circuits for the north and south tracks were crossed. Further investigation revealed that a tree limb had fallen into the pole line at MP 277 causing a wrap in the north and south track "D" wires. The line wrap was removed and circuits tested again with no further exceptions taken.</p>									
<a href="#">186</a>	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>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
443	7/31/1998	CSXT	CTC			Q22929	None	East Junction, Hamlet, NC	N
<p>At approximately 0130 on the morning of July 31, Q22929 reported the distant signal to East Junction at CLEAR with no signal requested at East Junction. The signals were removed from service and signal personnel dispatched to investigate.</p> <p>Signal personnel arrived at approximately 0200 and verified the CLEAR signal at the distant signal. The investigation revealed that the signal case at East Junction was hit by a vehicle. Upon opening the signal case at East Junction, signal personnel found the DR relay on its side. The contacts on the relay were made, thereby causing the false signal.</p> <p>The relay was righted, operational tests performed, and the signals were placed back in service at 0300.</p> <p>Signal maintainer verified that bungalow was struck by City vehicle. CSX police spoke to City personnel [GVH].</p>									
605	8/5/1998	AMTK		Remote		941	Signal 971-3, Charles Interlocking, Signal	Baltimore, MD	N
<p>Engineer on train 105 reported that signal 7SB displayed STOP, due to #89 switch out of correspondence. Dispatcher gave the engineer permission by the 7SB signal with Rule 241. The engineer reported that after passing 7SB signal the cab signal aspect indicated CLEAR. Signal 971-3 displayed STOP AND PROCEED with CLEAR cab aspect displayed in engine. After investigation, it was determined that the 3 HGR did not check the cab signal network, therefore, allowing CLEAR cab rather than RESTRICTING cab to be displayed. Circuit changes made, circuitry tested, and signal system returned to service.</p>									
197	8/5/1998	NS	CTC			3537	Poleline	Leipsic, OH	N
<p>At approximately 11:10 PM, eastbound train No. X10 reported receiving an ADVANCE APPROACH indication at intermediate signal 3156 and then a STOP at Leipsic home signal, MP B-311.4, which is the I&amp;O interlocking. The engineer was able to stop short of the home signal at Leipsic. They had been running at restricted speed due to a storm caused code line outage. Signal 3156 should have been displaying APPROACH since it was an automatic signal. The home signal was at STOP because of the code line outage.</p> <p>Signal personnel called to investigate were able to duplicate the problem and determined that the B3156HR relay that controlled the bottom yellow aspect was falsely energized with 6 volts across the coil. The 6 volts was found to be coming from a combination of several line wire wraps and grounds that resulted from damage from a severe storm which was passing through the area at the time. The voltage ultimately came from the 3156NHD line wire that was normally separated from the B3156H wire by no fewer than two wires fed by different battery. It was only through such an unlikely combination of poleline faults that this problem could have occurred.</p> <p>The bottom yellow on the 3156 signal has been disabled until the poleline gets configured to prevent a recurrence. Other signal aspects were returned to service by 8:00 AM following poleline repair and appropriate tests.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
<b>212</b>	8/7/1998	UP	CTC	Manual		UP-0508	None	Kinder, LA	N
<p>On August 7, 1998 at 22:45 CDST, on the Beaumont Subdivision at Kinder, LA, westbound MLIBT-07, at Mile Pole 545.3, observed a Yellow westbound signal governing the Interlocker at Kinder with the gate lined against movement on the Beaumont Sub.</p> <p>An investigation revealed a wiring error which caused the gate repeater to be ineffective in the signal circuits.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
<b>211</b>	8/7/1998	UP	CTC			UP00159	None	North Riverside, MO	N
<p>On August 7, 1998 at 13:30 CDST, on the De Soto Subdivision at North Riverside, Missouri, southbound LSE57-07, at Mile Pole 26.30, observed a CLEAR southbound signal at CPD026, and a Red southbound signal at CPD027.</p> <p>An investigation revealed that a line wrap in the HD circuits between D026 and D027 allowed the 61H and 61D relays to pick up falsely at D026.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
<b>187</b>	8/25/1998	BNSF	AB			SCLOLCB-524 We	Pole Line	Adamana, AZ	N
<p>The SCLOLCB-524 west was approaching intermediate signal 2391 which was displaying a Flashing Yellow aspect. The VMCLAC-122 was in advance of signal 2391 approximately 1/2 mile occupying the block controlled by signal 2391. The SCLOLCB-524 was able to stop without incident.</p> <p>The cause of the failure was due to trees in the pole line crossed the PCR circuit with the HDR circuit falsely energizing the circuit.</p> <p>Correction: The trees were removed from the pole line restoring the system.</p>									
<b>213</b>	8/27/1998	UP	CTC			UP 8266	None	Midvale, UT	N
<p>On August 27, 1998 at 15:46 MDST, on the Provo Subdivision at Midvale, Utah, westbound 1 RUT611 27, at Mile Pole 26.30, had a switch lined under him while he was occupying the OS circuit.</p> <p>An investigation revealed that an OS track relay was not wired into the OS track repeater, which allowed the switch to be lined while the train occupied a portion of the OS circuit for that switch.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
<b>214</b>	8/27/1998	UP	CTC			SP 8108	None	Georgetown, LA	N
<p>On August 27, 1998 at 14:40 CDST, on the Monroe Subdivision at Georgetown, LA, northbound MDYNL-26 observed the northbound signal at Control Point A560 upgrade from Red to Green with OS track circuit occupied.</p> <p>An investigation revealed the relay track connections on either side of one insulated joint at the north end of the OS were transposed, which allowed the track battery from the north to be in series with both relays and energize the relays with the OS track occupied.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
<b>215</b>	8/28/1998	UP	CTC			SP 8267	None	Delta, CA	N
<p>On August 28, 1998 at 22:30 PDST, on the Valley Subdivision at Delta, CA, westbound MBROA-28, on the main track at Mile Pole 296.25, observed the westbound signal out of the siding display a Yellow signal with the switch lined normal.</p> <p>An investigation revealed vandalism in the control house left the LBHPR relay turned over.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
<b>216</b>	9/10/1998	UP	AB			UP 5555	None	El Paso, TX	N
<p>On September 10, 1998 at 17:55 MDT, on the Valentine Subdivision at El Paso, TX, eastbound UP 5555 was lined from the House Track to the #2 Main Track at Mile Pole 826.5, and observed the eastbound signal was Green over Red with the #3 crossover lined against them.</p> <p>An investigation revealed the signal appeared to give a Green indication due to the reflection of the sun on the lens.</p> <p>A Phantom Screen was installed on the signal, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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188	9/28/1998	BNSF	CTC			BN 9497	None	Logan, WY	N
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Approximately 0745 MDT, BN 9497 with 0 loads 116 empties, train symbol EMEANA252, was stopped in approach of absolute westbound Main Track 3 signal 3W displaying Red/Red, at a distance of approximately 12 car lengths for approximately one hour. Conductor on ground giving a roll-by to an eastbound train on Main Track 2 was notified by Engineer at approximately 0845MDT that they had a PROCEED indication for westbound movement at 3W signal. Conductor boarded train and agreed that they had what appeared to be a Red/Yellow signal. Train proceeded westbound to a distance of approximately 7 car lengths from 3W signal, and observed a Red/Red. Crew notified dispatcher, and Signal Supervisor, Maintainer and Inspector were called at 0855 MDT. Crew statements were obtained, and dispatcher held train traffic to allow for signal tests. Signal Supervisor observed 3W signal from BN 9497 at a distance of 7 car lengths and observed a Red/Yellow/Red aspect. VHLC logs from control point Crossovers 72.5 were downloaded. Logs show that 3W absolute control signal had not been requested by the dispatcher and that 3W signal displayed Red/Red while the BN 9497 westbound was in approach to 3W. Office logs at Fort Worth indicate that the 3W signal had not been requested by the Dispatcher. Operational tests performed on signal system with no exceptions taken. 3W signal is a two unit colorlight with green, yellow, red lens in the top unit and green, yellow, red lens in the bottom unit. No exceptions taken with condition of the top or lower unit internal and external lens assemblies. Both units were equipped with snow shields. Lamp voltages were tested with no exceptions. Signal Supervisor reenacted incident in the same position in which the crew observed signal 3W and could distinguish a Yellow aspect in the lower unit caused by sunlight reflection from approximately 0815 until 0835 MDT.

Corrective action: Individual visors were installed on green, yellow, and red light units on top and bottom colorlight units. Signal was observed at approximately 0834 MDT on September 29, 1998 with overcast sky conditions, and with sun in same position on subsequent days and no exceptions were noted. Phankill screens will be installed and evaluated to determine their effect as deterrent against external light sources and reflections.

198	9/29/1998	NS	AB			UP-9247, NS-8736	Connection	Millard, MS	N
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At approximately 5:45 PM, train No. 131 was traveling southbound from Meridian, MS to New Orleans when the crew observed a CLEAR indication on signal 134.3. The crew knew they should have had an APPROACH indication because southbound train No. M30 was stopped in the second block ahead. They were aware of M30's location on account of radio conversation.

Signal personnel were called to investigate. The signals in this territory are controlled by Electrocode II electronic track circuits. Though the problem was not duplicated in the field, they did witness a more restrictive indication on the 134.3 signal under similar conditions. The code generator responsible for the 134.3 signal indication (at the next signal south) was found to be causing the false restricting when it was purposely vibrated in its socket. This code generator was never seen to cause a false clear in the field, even when vibrated. However, when the unit was bench tested at Birmingham with a code-two (APPROACH) continuously generated, it was able to get a receiver to decode a code-four (CLEAR) for about 9.5 seconds by wiggling the card. The unit was returned to the manufacturer for further analysis and their recommendations.

The manufacturer stated they were able to duplicate the problem and traced it to mechanical loosening of the connection at one end of a capacitor. This fault was found to only upgrade an APPROACH code to a CLEAR code or down grade to RESTRICTING, and then only sporadically and momentarily when the card was being vibrated. It would not upgrade from a red. It was not determined what could have been vibrating the case where the card unit was housed. Recommendations are to be provided by the manufacturer.

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
444	10/1/1998	CSXT	CTC			X90129	None	Republic, OH	N
<p>Train K90129 was traveling westbound on number one track near Republic, OH on October 1, 1998. The train crew received a CLEAR signal at the intermediate approach signal for Republic. After stopping and receiving permission to pass through a work authority, the crew observed a CLEAR signal with the WAS on number one track at Republic. The crew observed the number 15 crossover switch from number one to number two track reversed and braked the train. The train crew reported the incident to the dispatcher and the signals were removed from service.</p> <p>Signal personnel were dispatched to investigate and observed the number 15 switch on number one track to be locked reverse and the number 15A switch on number two track to be locked in the normal position. Further investigation revealed that two jumpers installed at the factory had not been removed from the switch machine in accordance with the circuit plans. The effect of the jumpers was to return a correspondence indication of only the number 15A switch to the vital microprocessor unit. The shunt bar for the switch was also in the non-shunting position. The jumpers were removed and the shunt bar changed to the shunting position. The signals were returned to service after operational tests were performed.</p>									
445	10/9/1998	CSXT	CTC			Q44009	None	NE Cherry, Plant City, FL	N
<p>On October 9, CSX train Q44009 was traveling northbound on the main line of the Lakeland Subdivision approaching NAS Cherry. The train crew observed Green aspect on the main line NAS and a Red over Green aspect on the siding NAS. The signals were removed from service and train control personnel dispatched.</p> <p>Train control personnel responded and verified the aspects viewed by the train crew. After investigation, it was determined the root cause of the false clear was caused by wire changes made recently in conjunction with replacing the searchlight with a color light signal. The operational tests were not performed correctly after the wiring changes were completed. The RAHDGR contact in the circuit the the NAS main line had been replaced with a contact from the RHDPR. The effect of this change was to remove the checks on switch position, detector circuit, and opposing routes when lining a signal. Therefore, both signals were lit when a northbound signal was requested. The wiring was corrected and the signals were returned to service after operational tests were completed.</p>									
606	10/12/1998	AMTK	CTC			316	Signal 884-1 CS 89.2	Guilford, CT	N
<p>Engineer on train 12 reported signal 884-1 displayed CLEAR aspect and CLEAR cab instead of cab speed. Also, CS 89.2 displayed CLEAR cab instead of cab speed with signal 1E at Guilford displaying cab speed. Upon investigation it was determined that peripheral boards of Micro Lok Plus for track #1 and track #2 at Loc. A at Guilford Interlocking were swapped which allowed wrong code to be sent to signal 884-1 and CS 89.2. Investigation is being conducted to determine responsibility.</p>									
217	10/13/1998	UP	AB			Unknown	None	El Paso, TX	N
<p>On October 13, 1998, at unknown time, on the Valentine Subdivision at El Paso, TX, an unknown westbound train on track #1 reported the westbound signal at MP 826.9 was Red over Green over Red with the next westbound signal Red over Red.</p> <p>An investigation revealed the wires on the #3 and #4 contacts of the 2RBHDR relay were transposed.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
189	10/19/1998	BNSF	CTC			BN 7908, HPASFT	GRS SA Mechanism	Spokane, WA	Y
<p>At Parkwater Interlocking, the BN 3018 light power took a Flashing Yellow signal eastward at Parkwater. He went through the OS and onto the East track, 1E signal did not return to the Red position when de-energized. The GRS SA mechanism stuck in the Yellow position. This gave the BN 7908 a more favorable signal (Yellow) than intended. The 1E signal did drop off when the BN7908 entered the OS. The BN7908 proceeding on the Yellow aspect struck the BN 3018 which was stopped causing @ \$200 00 damage and no injuries. We were able to duplicate the stuck mechanism in our tests. The 1E signal had been vandalized and may have caused the mechanism to stick. The GRS SA mechanism was replaced and the new mechanism was tested, and system restored to service.</p> <p>Incident called in to FRA and recorded as Case # 460535 by Rutherford.</p>									
218	10/21/1998	UP	AB			UP 6046	None	Pastura, NM	N
<p>On October 21, 1998 at 23:45 MDT, on the Carrizozo Subdivision at Pastura, NM, eastbound IILADU-20 was lined from the Main track to the siding, and eastbound approach signal at MP 1543.0 and the eastbound home signal for the switch at MP 1545.8 displayed a Green signal.</p> <p>An investigation revealed the switch was not wired correctly which allowed the normal switch position indication to remain energized with the switch reverse.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
607	10/22/1998	CR		Remote		Train XSM49E	4TPR Relay	Pittsburgh, PA	Y
<p>Train XSM49E was proceeding on signal indication through CP Penn from #1 track on the Conemaugh Line to #2 Island Connecting track over #9 switch reverse. The west end of the 41st car proceeded down #2 Island Connecting track while the east end of the car traveled down the Fort Wayne Line #2 track. The train went into emergency with the one car derailed. The cause of the derailment was determined to be jumpers that had been applied to the 4TPR relay allowing the #9 switch to be thrown with a train on that circuit. The jumper was removed, circuits tested and returned to service the same day. An investigation will be held to assess any employee responsibility, and instruction on company policy concerning jumper permission will be reviewed with all C&amp;S employees.</p>									
608	10/30/1998	METX		Manual			38RAHDR	Tower A-2, Chicago, IL	N
<p>Train took signal 38R after past insulated joints in plant signal stayed Yellow. Mtr. Took track 2 out of service and started to trouble shoot. Found relay 38RAHDR not dropping with no battery on it. Replace relay, tested system and put back in service.</p> <p>Time out: 11:30 AM Back in Service: 2:30 PM</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
199	11/4/1998	NS	CTC			8929-6659	Human Error	Bandy, VA	N
<p>At approximately 6:00 AM, train J69, a single unit helper, had traveled westbound on the Dry Fork Branch to the west end of Bandy, where he was to clear up in the siding. After lining himself into the siding and getting in the clear, the Engineer was in the process of tying his unit down when he heard the following train J60 call a CLEAR signal westward at the east end of Bandy. Since the engineer had not yet lined the handthrow mainline switch and derail back to normal, he reported the occurrence as a false proceed.</p> <p>Signal personnel were called to investigate and were able to duplicate the problem. The normal switch detection relay for the handthrow switch is located at an ElectroLock cut section case about 700 feet west of the switch. Though this relay was properly down when the west end of Bandy switch was not normal, it was not affecting the electronic track code passing through the ElectroLock equipment. Investigation revealed that a handthrow switch adjacent to the ElectroLock had been removed from the track two days following the FRA 236.103 testing. When modifications were made for this removal, the maintainer erroneously cut out the circuit through the WP relay, too. Improper testing after disarrangement resulted in the wiring error going undetected at the time.</p> <p>Corrections were made to the circuits, the signal system was properly tested and returned to normal service.</p>									
609	11/11/1998	IC	CTC			GCG2CH	NBH Sig.	South Edgewood, IL	N
<p>Crew of train observed NBH at CP South Edgewood display Yellow over Green in approach to the home signal at Edgewood Jct. displaying Red over Red.</p> <p>Investigation found the Light Out Relay was de-energized for the top Red marker at Edgewood Jct. With the LOR down, the lower aspect was set Red; however, the outgoing code to the approach signal was not downgraded and continued to send a code for Yellow over Green.</p> <p>Interim circuits were made by disabling the codes for the approach aspects when the LOR is de-energized. When the interim circuit changes were completed, tests were performed and signals observed to insure integrity. Permanent changes require programming and circuit changes, and these changes are being installed.</p>									
190	11/17/1998	BNSF	CTC			UPSACD, Engine #	70 L Signal	Kansas City, MO	N
<p>The UPSACD was a northbound train approaching the 70L signal at Tower 8, Sheffield, on the KCS Railroad. The train reported that the 70L displayed a Red over Green aspect with the next signal, 66L, displaying a Red aspect. Signals were tested and found to be as reported. The cause was due to a wiring error in the signal control circuit. Circuit was corrected and signals tested and restored to service on 11-18-98 at 0200 hours.</p>									
610	11/20/1998	AMTK				MARC #532, Eng. 4	3N Signal, Charles	Baltimore, MD	N
<p>Engineer on northbound MARC local reported that signal 3W at Charles displayed MEDIUM APPROACH with cab signal displaying APPROACH MEDIUM rather than APPROACH. Upon investigation it was found that due to a circuit design error, the speed selection network was omitted thru the new switch #66. Circuit was revised by breaking the speed selection network thru the #66 correspondence relays. Circuit was tested and 3N signal returned to service.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
<b>219</b>	11/28/1998	UP		Automatic		SP 6866	None	West Point, TX	N
<p>On November 28, 1998 at 14:08 CST, on the Smithville Subdivision at West Point, TX, southbound RDTPA-27 reported the southbound Interlocking Home Signal at mile pole 78.00 displayed a Red over lunar aspect with a westbound train occupying the interlocking.</p> <p>An investigation revealed a rodent had chewed through the wire insulation in the signal mast which resulted in shorting the voltage from the red signal head wiring to the lunar signal head wiring.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
<b>611</b>	12/3/1998	CR		CTC		6664	Auto. Sig. 1421W	Columbus, OH	N
<p>Train PICO2, westbound, #1 track on Cincinnati Line observed signal 1421W CLEAR with westbound home signal at CP 144 displaying MEDIUM APPROACH. Cause was found to be field Signal personnel had made unauthorized circuit change and had failed to properly test the signal system.</p> <p>Circuit design was corrected, all tests were made and the signal system was restored to service. Involved employees were removed from service and discipline was assessed.</p>									
<b>200</b>	12/4/1998	NS		AB		9003	Poleline	Foristell, MO	N
<p>At approximately 12:10 AM, train #256 with crew consisting of Engineer, Student Engineer, and Conductor were eastbound at West End Foristell when they observed the eastward signal go from RESTRICTING to CLEAR. The next signal, at East End Foristell, was then observed to be displaying APPROACH. The preceding train, #282, was in the block ahead of East End Foristell and, hearing #256 call these signals over the radio, contacted #256 to confirm the calls. Train #256 then aware that the signals had malfunctioned, slowed in sufficient time to avoid #282 and reported the problem to the Berkeley Operator.</p> <p>Signal personnel were advised of the situation, investigated and were able to duplicate the problem. The cause was traced to a line wire wrap at about milepost S-50. A three wire DC HD line wire signal control system is employed in this territory. The wrap was between the opposing signal HD wires and did not involve the common. The condition resulted in a more restricting signal for the first train, #282, but when that train occupied the second of two track circuits in the block, a path was set up by the wrap that gave a false APPROACH aspect on the East End Foristell eastward signal into the block that [unintelligible] was what #256 had observed.</p> <p>The wrap was cleared and the signals were tested for normal operation. Though not confirmed, it is likely that brush clearing activities the previous day had caused the wrap.</p>									
<b>612</b>	12/12/1998	CR		Remote		OIPI-1	14W Signal, CP UN	Gallitzin, PA	N
<p>Westbound crew on OIPI-1 observed home signal 14W at CP "UN" displaying MEDIUM CLEAR with train RR 261 ahead in the block. Cause was found to be a design error which allowed the 14 WADR to be energized with a train in the block.</p> <p>Design revisions were issued, all signal tests were completed and the signal system was returned to service.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
446	12/14/1998	CSXT	CTC				None	NE Parkwood, Parkwood, AL	N
<p>A southbound train observed a CLEAR signal at the SAS NE Parkwood. The switch at the SE Parkwood was lined normal and the next switch to the south was lined reverse for a movement onto the Lineville Subdivision. The signal at ME Parkwood should have displayed an APPROACH MEDIUM aspect for this movement. The signals were removed from service and signal personnel were dispatched.</p> <p>Signal personnel verified the false proceed indication and identified two wires that had been reversed during a splice to repair a cut cable. The wiring error resulted in a false track code to be sent north to the SAS NE Parkwood. The splice was rewired correctly and the signals were returned to service following operational tests.</p>									
220	12/18/1998	UP	CTC	Manual		UP 9455 W	None	Houston, TX	N
<p>On December 18, 1998 at 09:30 CST, at Tower 26 on the Terminal Subdivision in Houston, Texas, at mile post 360.69, westbound IEWLBB 18, on Main Track #2, reported westbound signal #70 was Green and the next westbound signal #59 was Red.</p> <p>An investigation revealed the yellow/green control wires for signal #70 were reversed.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
191	12/28/1998	BNSF	CTC			LSEO8151-27	SA Signal 42RA	West Aurora, MO	N
<p>At approximately 0040 hours, December 28, 1998, westbound train LSEO8151-27, reported a Green main line signal at East Aurora, Yellow at West Aurora and Red at Interlocker Aurora. Signal at East Aurora should have been Yellow for westbound movement, account 2D signal at Interlocker. On 12-16-98 signal 42RA at West Aurora had cable and light head changed out. Jumper on the GY repeater circuit of this signal had been mistakenly installed. The error was not discovered during operational checkout. The jumper was removed and system tested at 0400 hrs on 12-28-98.</p>									

No. of Reports Shown in this Listing: **72**