



IronWood Technologies

Railroad Accident Reconstruction

Federal Railroad Administration

False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - CSX Transportation

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
7	1/8/1995	CSXT	CTC			Train PO8308	None	Richmond, VA	N
<p>Cause</p> <p>Narrative</p> <p>Scenario Reenacted, Unable to Duplicate, No Defects Found</p> <p>On January 8, 1995, Train PO 8308 reported he has a SLOW CLEAR indication from #4 Track to #3 Track at Hillard Road for southbound movement. This signal was not requested at this time; however, northbound signal for #3 Track was, and was indicating.</p> <p>Signal personnel investigated the incident making all required operational tests. The incident could not be duplicated. It was determined that signal system was functioning as intended, and signal system was restored to service.</p>									
8	1/17/1995	CSXT	CTC			Train F767-17	Signal 269	Lilesville, NC	N
<p>Failed Equipment or Device - Relay</p> <p>On January 17, 1995, Train F767-17 reported APPROACH MEDIUM signal at M.P. SF-269. This signal or route was not intended by CSXT due to the signal in advance being a control signal and at STOP.</p> <p>Signal system was removed from service. Signal personnel, along with FRA personnel investigated the incident making all operational tests. The incident could not be duplicated. It was determined that the signal system was functioning as intended. Signal system is restored to service.</p> <p>(Handwritten notes on bottom of form: "CD Relay failing - pitted contacts")</p>									
9	2/6/1995	CSXT	AB				Signal 122.3	Social Circle, GA	N
<p>Maintenance - Pole Line (storm, excessive vegetation, rotting poles, excessive slack in wires, etc.)</p> <p>On February 6, 1995, Signal Maintainer was dispatched to signal trouble at M.P. YYG-122.3. Upon investigation, he determined that the home signal at M.P. YYG-120.1 displayed a CLEAR indication while the intermediate signal in advance (122.3) displayed a Red indication. Signal system was removed from service. Upon further investigation, it was discovered that the signal control wires were wrapped, causing improper polarity to be applied to control relay.</p> <p>Control wires were unwrapped, and situation corrected. Operational test was performed; and signal system was returned to service.</p>									

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause		Narrative				
10	2/12/1995	CSXT	CTC			Train Q67611	None	Atlanta, GA	N
			Scenario Reenacted, Unable to Duplicate, No Defects Found						
			On February 12, 1995, Train Q67611 alleged having Lunar over Red indication at signal 10 at top of slide, and then to Dark over Red, this route was not requested at this time. Signal system was removed from service.						
			Signal person performed all required operational tests. It was determined that signal system was functioning as intended. Signal system is restored to service.						
11	2/21/1995	CSXT	CTC			Train R322-21	None	Plymouth Road, MI	N
			Scenario Reenacted, Unable to Duplicate, No Defects Found						
			On February 21, 1995, at 1:15 p.m., Train R 322-21 reported they had a CLEAR indication on eastward absolute signal at Plymouth Road, and a STOP indication at the intermediate in advance, with train ahead in block. This route was not requested.						
			Signal system was removed from service. Signal personnel performed all operational tests. Incident could not be duplicated. Signal system was determined to be functioning as intended, and signal system returned to service.						
12	3/23/1995	CSXT	CTC			Train P24923	None	Baltimore, MD	N
			Scenario Reenacted, Unable to Duplicate, No Defects Found						
			On March 23, 1995, at 8:16 a.m., westbound passenger train P24923 reported westbound signal off Mare Lead No. 22 went from LIMITED CLEAR to LIMITED APPROACH; signal should not have gone to LIMITED CLEAR.						
			Signal system was removed from service. Signal personnel performed all operational tests and incident could not be duplicated. Signal system was determined to be functioning as intended; and signal system has been returned to service.						
13	4/2/1995	CSXT	CTC			Train Y20502	None	Plymouth, MI	N
			Scenario Reenacted, Unable to Duplicate, No Defects Found						
			On April 2, 1995, Train Y20502 reported they had a SLOW APPROACH at the eastward absolute signal at the Toldeo Wye with switch lined against their movement.						
			Signal system was removed from service. Signal personnel performed all operational tests. Incident could not be duplicated. Signal system was determined to be functioning as intended and returned to service.						

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			Cause						
			Narrative						
14	4/20/1995	CSXT	CTC			Train U23917	None	Jemison, AL	N
			Scenario Reenacted, Unable to Duplicate, No Defects Found						
			On April 20, 1995, Train U23917 reported they received a CLEAR signal at South Jemison up to a Red signal at North Jemison. Train U23917 did overrun Red signal at North Jemison.						
			Signal system was removed from service. Signal personnel, along with the FRA, performed all operational tests. The incident could not be duplicated. Signal system was determined to be functioning as intended, and was returned to service.						
15	6/19/1995	CSXT	CTC			Train R69718	Vandalism	North Rocky, TN	N
			Vandalism - Instrument Case, Cable, or Junction Box Damaged						
			On June 19, 1995, Train R69718 reported a MEDIUM APPROACH at North Rocky, TN. This route was not requested. Train crew reported vandals shooting firearms at signal housing; Train Dispatcher removed signals from service.						
			Signal Department personnel investigated incident and discovered vital signal cable and extensive damage from vandalism.						
			Signal personnel completed repairs and made all operational tests. Signal system was returned to service.						
16	6/22/1995	CSXT	CTC			Train R220	None	CT, Cincinnati, OH	N
			Scenario Reenacted, Unable to Duplicate, No Defects Found						
			On June 22, 1995, Train R220 alleges having a CLEAR signal at CT just prior to running through switch lined against his move.						
			Signal system was removed from service; signal personnel investigated the incident performing all operational tests. The incident could not be duplicated. Signal system is returned to service.						
17	6/30/1995	CSXT	CTC			Train Q31728	Signal 2001	Keyser Station, WV	N
			Failed Equipment or Device - Interior Wiring						
			On June 30, 1995, Train Q-31728 reported receiving two Yellows and a marker at Signal 2001 with crossover at Keyser Station line from #1 to #2.						
			The signal system was removed from service. Signal personnel performed all operational tests and discovered the RE circuit was lodged with the YE circuit. Repairs and additional operational checks were made.						
			Signal system is not functioning as intended and is returned to service.						

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
18	7/16/1995	CSXT	AB			Train Z49115	Signal 272.1	Campbellsburg, IN	N	
			Maintenance - Pole Line (storm, excessive vegetation, rotting poles, excessive slack in wires, etc.)							
			On July 16, 1995, Train Z49115 reported the signal at the 272.1 M.P. was displaying a clear signal north and south.							
			The signal system was removed from service. Signal personnel investigated the incident and discovered the control wire for Sycamore Street crossing was wrapped with HD control for Signal 272.1.							
			Line wires were unwrapped, operational tests completed, and signal system was returned to service.							
19	9/5/1995	CSXT	CTC			Train P62405	#6 Signal	N. Boynton Beach	N	
			Vandalism - Instrument Case, Cable, or Junction Box Damaged							
			On September 5, 1995 Train P62405 reported that Train P62705 had a medium clear out of siding while P62405 had a clear signal down the main line.							
			Signal system was removed from service. Signal department personnel investigated the incident and discovered that vandals had damaged junction box causing the LBRG control to contact the LBDG control.							
			The junction box was repaired and operational test completed. Signal system was returned to service.							
52	11/28/1995	CSXT				NPST-26	None	Orinosa, Utah	N	
			Vandalism - Instrument Case, Cable, or Junction Box Damaged							
			On November 28, 1995, at 13:45 (CDT) on the Elko Subdivision, westbound train NPST-26 had a Green aspect at Signal No. 830.1, a Flashing Yellow aspect at Signal 827.7 and a diverging Red over Lunar aspect at Signal CP F826.							
			An investigation revealed the signal case at MP 827.7 had been run into by a vehicle and upset relays RLPR, 180CTR, and DRAR which had to be replaced.							
			The signal system was restored to proper operation, and all applicable tests were performed.							

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
20	12/7/1995	CSXT	CTC			Train R27205	None	Troy, OH	N	
			Phantom Signal - Due to Sun Angle							
			On December 7, 1995 at approximately 1240 hours, the crew of northbound train R27205 alleged that they had a STOP AND PROCEED on the northbound absolute signal (21R) at the South End of Troy. This signal was not requested by the train dispatcher at this time. Signal system was removed from service and investigation began. Signal and Transportation personnel concluded that the A marker appeared to be dimly lit due to the effects of sunlight. An alternate hood was placed on the signal to correct the sunlight and signals were restored to service.							
6	12/30/1995	CSXT	CTC			None	Sig LA	West Purcell, OK	N	
			Vandalism - Signal Mechanism Shot - Stuck in Position							
			Dispatcher reported signal LA, Main Line westward control signal, West End Purcell, OK cleared on its own and could not be taken down. Maintainer observed signal LA displaying a very dim Yellow aspect. Maintainer found signal had been shot, damaging the H-5 relay. Maintainer replaced H-5 relay and tested signal system. There were no trains that viewed the signal before the signal was placed to STOP by the signal maintainer.							
80	1/30/1996	CSXT		Remote		Train Z24020	#3 Track Circuit	GTW Crossing, Toledo, OH	N	
			Human Error - Signal Circuit Design Error, Inadequate Service-Testing							
			On Tuesday, January 21, 1997 Norfolk Southern Train Y13 reported a RESTRICTING eastbound signal at GTW Interlocking while train Z24020 was fouling the crossing diamond.							
			CSXT Train Control personnel removed the signal system from service for this route. CSXT Train Control personnel investigated the incident and determined the last car of the train was bridging the track circuit between the dead section of the diamond and the insulated joints at the number 2 signal. The car length was 80 feet and the track circuit length was 37 feet 6 inches.							
			This route remains out of service with design changes scheduled for completion on January 31, 1997.							

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81	2/5/1996	CSXT	CTC			Train Q21603	Eastbound Signal	Brentwood, MD	N
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Vandalism - Signal Damaged, Caused Phantom Aspect

On February 5, 1996 at approximately 1200 hours, eastbound train Q21603 reported he had an APPROACH indication at Brentwood Intermediate (M.P. BA35) with train Q29203 ahead in block.

Signal system was removed from service.

Signal personnel investigated the incident making all required tests. It was determined that the signal has been vandalized, damaging 4 signal lamps and that the cover on the back of the yellow lamp unit was off.

Repairs were made and signal system returned to service.

82	4/26/1996	CSXT	CTC			Train	None	CT Junction, Cincinnati, OH	N
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Human Error - Signal Personnel Introduced False Energy into Signal System During Testing

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.

83	6/8/1996	CSXT	CTC			T64108	Vandalism	Intermediate Signal 3.2, St. Albans, WV	N
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Vandalism - Instrument Case, Cable, or Junction Box Damaged

On June 8, 1996 at approximately 1832 hours, trains T64108 and V61507 traveling westbound at M.P. 2.7 observed eastbound signal at 3.2 displaying an APPROACH with their train on circuit.

Signal system was removed from service.

Signal personnel determined that vandals broke into signal control house and damaged relays causing 32 HDR relay from deenergizing.

Repairs to equipment and operational test performed.

Signal system is now functioning as intended.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause		Narrative				
85	7/28/1996	CSXT	CTC			Train #	Track Circuit	Vulcan Intermediate, PeeDee, SC	N
			Maintenance - Improper Adjustment, Track Circuit						
			On 08/02/96 Traincrew reported that on 7-28-96 they received a Yellow over Green indication at M.P. 262.10 and a STOP at the Northend of PeeDee and was routed through the siding. The signal was removed from service. Signal personnel performed operational test and could not duplicate incident. Event log at the Operations Center did not indicate any problem and indicated the train down the main line. Signal personnel along with the local FRA inspector were able to determine that a track circuit failure was occurring in the siding, that problem was corrected. No exceptions were taken to the signal system it has been restored to service.						
84	7/29/1996	CSXT	CTC			Q69629	L-Signal	Richardson Creek, Richardson Creek, SC	N
			Phantom Signal - Due to Sun Angle						
			On July 29, 1996 northbound train Q69629 reported a Red over Yellow signal indication with southbound train F76729 pulling into the siding at Richardson Creek ahead. Signal system was removed from service. Signal personnel along with FRA Inspector performed operation test on the signal and could not recreate this occurrence. It was determined that during the same time of day that sunlight was causing a phantom aspect. A longer hood was installed, lamp voltage adjustments were made. Signal system was placed back in service.						
86	8/9/1996	CSXT	APB			Train 361	Semaphore	Salty Block Signal, Rushville, IN	N
			Failed Equipment or Device - Semaphore Signal						
			On August 9, 1996 Train 361 reported a CLEAR signal at signal E67-31, this signal should have been Red. Signal system was removed from service. Signal personnel investigated the incident and determined that the ratchet pawl was engaged with no battery applied. Ratchet pawl assembly was replaced.						
87	8/12/1996	CSXT	CTC			Train D773	Insulation	Conboy, PA	N
			Failed Equipment or Device - Interior Wiring						
			Train D773 traveling west on #1 track reported a Red over Green aspect and that a Green aspect was displayed on #2 track. Signals were removed from service. Signal department personnel investigated the incident and determined that the LCHR relay control wires were environmentally damaged causing a short which allowed current to flow improperly to the relay coil.						
			Signal personnel replace the wires and performed all operational test. Signal system functioned as intended and were placed back in service.						

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
88	8/23/1996	CSXT	APB				Lamp Unit	Signal 1711, Salem, IN	N
			Failed Equipment or Device - Semaphore Signal						
			On August 9, 1996 Soo Line Train Crew reported a more favorable aspect than desired at signal 1711. Signal system was removed from service. Signal personnel investigated the incident and determined that lamp unit had deteriorated and was obstructing the semaphore arm. The lamp unit was replaced and operational test performed. The signals were placed back in service.						
89	9/17/1996	CSXT	APB			N/A	Pole Line Control Wires	Signal 2655, Salem, IN	N
			Maintenance - Pole Line (storm, excessive vegetation, rotting poles, excessive slack in wires, etc.)						
			On September 17, 1996 a credible report was made that northbound signal at M.P. 265.5 was displaying a CLEAR as a southbound train was approaching a CLEAR southbound signal.						
			Signal system was removed from service.						
			Signal personnel performed operational test and determined that a tree had fallen into the pole line at M.P. 259.0 causing the control wires for signal 2655 to become wrapped with a crossing signal start circuit.						
			Repairs were made, signal system functioned as intended.						
			Signal system was returned to service.						
90	9/18/1996	CSXT	APB			Train PO5017	Semaphore	Indianapolis Subdivision, IN	N
			Failed Equipment or Device - Semaphore Signal						
			On September 18, 1996 Train PO5017 reported that when approaching and passing a CLEAR eastbound signal at MP 102.5 that the Westbound signal at the same location was in the CLEAR position.						
			Signal system was removed from service. Signal personnel performed operational test and determined that semaphore blade was stuck in the clear position with hold clear mechanism and track relays deenergized.						
			Repairs to semaphore signal were made and signals performed as intended.						
			Signal system was returned to service.						

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91	10/25/1996	CSXT	CTC			Train R67410	Lighting Circuit	South Halls, Halls, GA	N
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Human Error - Field Wiring Error, Inadequate Service Testing

On 10/11/96 Train R67410 reported receiving a MEDIUM APPROACH signal on #2 signal and that #6 signal out of siding was displaying a MEDIUM APPROACH.

Signals were removed from service.

Signal personnel investigated the incident and determined that a break in the LBHG circuit through the LAHR relay had not been installed.

Corrections were made, operational test performed and signals functioned as intended.

Signal system was restored to service.

92	11/6/1996	CSXT	CTC			East Bound Train	Grounded Cable	E. Garrett, Garrett, IN	N
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Failed Equipment or Device - Aerial or Underground Cable, Shorted or Grounded (not due to vandalism or digging)

On November 6, 1996 at East Garrett, Indiana, an Eastbound Train Crew reported the dwarf signal on adjacent track was displaying a STOP AND PROCEED signal.

Signal system was removed from service.

Repairs were made, operational test performed and signals placed back in service.

93	11/13/1996	CSXT	CTC				Relay	Grand Junction, Jacksonville, FL	N
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Human Error - Field Wiring Error, Inadequate Service Testing

On October 28, 1996, Train Crew reported receiving a MEDIUM APPROACH signal at Grand Junction for movement from Mildale Lead to #2 track, as they approached the switch it was lined for a normal move from #2 to #2.

The signal system was removed from service. Signal department personnel and FRA Inspector investigated the incident. It was determined that a modification was made to the system and a test was inadvertently missed. Corrections were made, operational tests performed and the signals functioned as intended.

Signal system was placed back in service.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
130	1/24/1997	CSXT	AB			Train Z49022	Intermediate Signal	Intermediate Signal 259.2, Mitchell, IN	N
			Maintenance - Wiring Chewed by Rodents						
			On January 23, 1997 Soo Line Train Z49022 reported a CLEAR signal at intermediate 259-2 with CSX train Q564-22 ahead.						
			Signal system was removed from service. Investigation revealed that the signal control wires for this signal had been damaged by rodents. Voltage present on one of these wires was demonstrated to recreate this problem.						
			Train Control personnel made repairs to the signal control wires, conducted operational test and returned the signal system to service.						
131	1/29/1997	CSXT	AB			Train J770	Semaphore Mechanism	Intermediate 147.7, Crawfordsville, IN	N
			Failed Equipment or Device - Semaphore Signal						
			On January 29, 1997 northbound train J770 reported their northbound signal was CLEAR and observed the opposing southbound signal at APPROACH.						
			The signal system was removed from service. Investigation revealed condensation had formed inside the semaphore mechanism housing. Due to extremely cold temperatures the brushes of the semaphore mechanism froze to the armature, preventing the mechanism from displaying the proper aspect.						
			The condensation was removed from the motor brushes and armature assembly. The seals of the semaphore housing were replaced with new seals and the armature and brushes were cleaned with contact cleaner. An operational test was satisfactorily completed and the signal system was returned to service.						

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132	3/30/1997	CSXT	CTC					North Tucker, Tucker, GA	N
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Human Error - Field Wiring Error, Inadequate Service Testing

On Saturday March 30, 1997 at 1:38 P.M. northbound train Q51428 reported Northward Absolute Signal at North Tucker displaying a CLEAR indication while a southward train was just south of the Gloster Holdout signal.

The signal system was removed from service immediately. Signal personnel were able to recreate the situation and investigation revealed that a small machine screw was bridging the LCH relay's 1 and 2 heel contacts thus causing the LA signal at North Tucker to display a CLEAR aspect.

The screw was removed, operational tests completed, and proved the signal system to operate properly. Signals were returned to service.

Further investigation revealed that approximately 1 year earlier the installation of radio control equipment and the removal of Union Switch and Signal 506 system was the origin of the machine screw. The old code equipment was residing directly above the LCH relay and is believed to be the culprit of the machine screw and was inadvertently missed during clean up.

An alert bulletin has been issued to all field personnel to promptly inspect for similar conditions as well as emphasizes the importance of prompt and proper cleanup subsequent to wiring work.

133	5/4/1997	CSXT	CTC			Q68402	Signal Mechanism	Oakworth, Decatur, AL	N
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Failed Equipment or Device - Relay

On May 4, 1997 at approximately 2:00 a.m. Signal Maintainer while on a trouble call discovered an improperly displayed Northward Absolute Signal at Oakworth. The signal was displaying a Red over Green aspect while train Q68402 was occupying the O.S. track section. The Signal Maintainer immediately removed the signal system from service. Investigation revealed that the bottom signal mechanism was stuck on the Green aspect. A new signal mechanism was installed and additional test were performed to the Maintainer's satisfaction. The signal system was returned to service. The signal mechanism was sent to a repair facility to determine the cause of the failure with results forthcoming.

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134	5/11/1997	CSXT	CTC			9026	Rusty Rail	OB Cabin, Covington, KY	N
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Loss of Shunt - Possible Rust or Foreign Material on Rail

On May 11, 1997, at 0124 hours, train Q504-09 struck the rear gondola car of the Lott Yard Job, Y235, within the control point limits at OB Cabin on the Cincinnati Terminal Subdivision. Train Q504-09 was traveling northbound through the control point limits at OB Cabin on signal indication. The gondola was occupying the control point track circuit but was not detected due to rusty rail conditions. The incident was investigated by signal personnel on the morning of May 11, 1997. The incident was reported to Mr. Blanchard of the FRA via the FRA Emergency Number at 0700. Mr. Blanchard entered the information on FRA Report No. 386813.

Investigation of the incident showed that at 2302 hours, Y235 shoved a cut of cars into the KC passing siding from the south end, KC Cabin. The crew made arrangements with the dispatcher to protect their movement by lining the N1 signal at OB Cabin. The N1 signal is the northbound signal for the KC passing siding at OB Cabin. The northbound signal at OB Cabin was still lined at the completion of the movement, indicating the control point was not occupied. The dispatcher then put the northbound signal at OB Cabin to stop. At 0123, the dispatcher lined the N3 signal for the movement of Q504-09. The N3 signal is the northbound signal on the number two main line track at OB Cabin. Q504-09 passed the N3 signal and struck the rear gondola car of Y235.

The track relays for the N1 signal, N3 signal, and the KC passing siding were subsequently tested for shunting.

135	7/8/1997	CSXT	CTC			U33730	None	N.E. Waxhaw, Waxhaw, NC	N
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Human Error - Signal Circuit Design Error, Inadequate Service-Testing

On July 8, 1997, south bound train U33730 reported to the dispatcher receiving a MEDIUM APPROACH signal at the north end of Waxhaw siding, which was already occupied by south bound train Q61908. The signal should have been RESTRICTING. U33730 did not take the signal. The dispatcher held the trains in position until signal personnel could arrive and investigation.

Investigation by signal personnel confirmed the false proceed indication. The siding track relay was observed coding. The coding was caused by energy supplied from the track isolation unit. The block operates by reversible DC code. The isolation unit would discharge on the off cycle of DC code in the block. The discharge routed through the axle of the approaching train and was the proper polarity to energize the siding track relay, thereby upgrading the signal. The isolation unit was removed from the circuit and the track relay stopped coding. The crossing and signal location were tested for proper operation and the signals placed back in service.

The isolation unit was installed as part of a grade crossing warning device installation. The relays were tested and found to be within specification. Two isolation units were installed at a different point in the circuit to prevent the situation from re-occurring. The signal system was tested for proper operation and found to be functioning as intended.

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136	7/19/1997	CSXT	CTC			Q591-18	None	S.E. Ames, Ames, IN	N
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Maintenance - Pole Line (storm, excessive vegetation, rotting poles, excessive slack in wires, etc.)

On July 18, 1997, southbound train Q591-18 was located between the switches at the south end of Ames. The south bound signal was STOP and the train crew observed the north bound signal to be APPROACH. The train was held in position until signal personnel arrived. The signal personnel confirmed the false APPROACH indication.

Upon investigation, the signal personnel found the line wire one span north of the north bound signal wrapped. The XC circuit and the 149.6CHD were wrapped, thereby placing 8.8 volts reverse polarity to the north bound signal.

The north bound signal went to the proper Red aspect when the wires were unwrapped.

The signal personnel were unable to duplicate the problem after clearing the line wrap. The south bound signal continued to stay at Red. After further investigation, signal personnel found the CHD wrapped with the line common at MP 152.2 and MP 152.5. Clearing these wraps cleared the Red southbound signal. The signals were returned to service after testing for proper operation and found to be functioning properly.

137	7/31/1997	CSXT	CTC			Q579-31	Signal Mechanism	S.E. Hardy, Hardy, AL	N
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Human Error - Signal Equipment Improperly Installed

On 7/31/97, Q579-31 received a CLEAR indication at the approach signal to the SAS Hardy. The SAS Hardy indicated STOP at the time and no signal had been requested. At 1301 hours, Q579-31 overran the Red aspect at SAS Hardy.

The SAS Hardy was removed from service and subsequently investigated by signal personnel. The Yellow Green Repeater Relay (YGPR) for the SAS Hardy signal mechanism was found energized due to a bent connector pin in the plug coupler assembly. The pin was bent following testing of the signal mechanism by maintenance personnel on the morning of 7/31/97. Voltage on the YGPR sends code back to the approach signal, thereby upgrading the approach signal to display a Green aspect while the SAS was at STOP. The voltage being applied to the YGPR had no effect on the operation of the SAS Hardy.

The signal mechanism and coupler were replaced and signals inspected, tested, and returned to service on 8/1/97.

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138	8/4/1997	CSXT	CTC			Unknown	None	Deshler, OH	N
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Human Error - Signal Circuit Design Error, Inadequate Service-Testing

On August 13, 1997, the train control group was notified that a south bound train received an APPROACH LIMITED aspect at the approach signal to the south bound absolute signal governing the north crossover at Deshler on 8/4/97. The absolute signal was lined and displayed a MEDIUM APPROACH for the crossover move that was lined. The approach signal should have displayed an APPROACH MEDIUM aspect and was a false proceed indication. The signals were removed from service and signal personnel were dispatched to investigate.

Signal personnel noted that both A and B overlays were not operating and confirmed the false proceed indication viewed by the train. The approach signal is a color position signal with a C marker. The circuit is designed with H and D circuits as well as an A and B overlay on the line wire. The A overlay relay in the energized position gives a flashing C marker at the approach signal to display an APPROACH LIMITED signal for a mainline move. The B overlay relay in the energized position gives a steady C marker at the approach signal to display an APPROACH MEDIUM aspect for a diverging move. The relays are wired so both relays cannot be energized at the same time. A loss of both overlays left only the H & D on the line wire as designed resulted in a flashing C marker for an APPROACH LIMITED aspect into the APPROACH MEDIUM aspect at the absolute signal.

Signal personnel disabled the EOR relay for the C marker until a design revision is engineered.

139	8/13/1997	CSXT	APB			Q564-13	None	Mitchell, IN	N
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Maintenance - Pole Line (storm, excessive vegetation, rotting poles, excessive slack in wires, etc.)

On August 13, 1997, north bound train Q564-13 occupied the main line between the switches at Mitchell in preparation for a reverse move onto the Indiana subdivision. After stopping short of the north end of Mitchell, the train crew observed the south bound semaphore signal at the north end of Mitchell indicating an APPROACH aspect into their occupied block. The train continued on its route and notified the dispatcher. The signals were removed from service and signal personnel dispatched to investigate.

Signal personnel simulated the train movement and observed the south bound at the north end of Mitchell display a Yellow aspect. Investigation revealed that a line wrap with bare wire and heavy brush and rain had caused the false proceed. The negative lock control line wire (L5RGPN) wrapped with HD circuit wire 255.1HD1. The line wrap was combined with a ground due to the brush to give the false proceed.

This segment has FRA approval for abandonment. After the line wrap was cleared, the coil wires for all signals were removed and DTC operation was put in place.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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140	9/7/1997	CSXT	CTC			U141-05	None	Sessoms, GA	Y
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Human Error - Signal Equipment Improperly Installed

On September 7, at approximately 0950 hours, train U141-05 was traveling southbound over the switch at the north end of Sessoms. The dispatcher, desiring to line a follow-up movement, called for a reverse switch at the north end of Sessoms. The switch began to move to the reverse position while U141-05 was still over the switch, causing the derailment of four cars.

Upon investigation, signal personnel found the TPSR relay hanging by its wires off the front of the shelf in a horizontal position. In this position, the front contacts were on the verge of being closed. The position of the relay and the vibration due to the passing train caused the contacts to close intermittently and the OS track circuit to indicate clear under the train. The OS track circuit falsely indicated CLEAR, thereby allowing the switch to reverse while the train was still over the switch.

The relay had been installed as part of a timing circuit in late June. The relay was not in a cradle or placed on matting. The relay was repositioned and secured. The location was tested in accordance with all FRA and CSX guidelines with no exceptions taken. The location was returned to service upon completion of repairs.

141	10/14/1997	CSXT	CTC			A013-14	None	Horn Industrial Track, Elberton, GA	N
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Human Error - Signal, Improper Lenses Installed

On October 15, the engineer of work train A013 mentioned during a conversation with signal personnel that there was a problem with the dwarf signal on the Horn industrial track at the south end of Norman on the Abbeville subdivision. The engineer said that he had received a Yellow aspect to exit the industrial track onto the occupied siding. The proper signal should have been a lunar aspect for RESTRICTING speed. The signals at the south end of Norman were suspended pending investigation.

Investigation revealed that the engineer had received a Yellow aspect to exit the industrial track onto an occupied siding. The signal should have been a lunar aspect indicating a RESTRICTING signal. The wiring in the location was according to plan. Discussion with the signal design group revealed that the Yellow lens had never been changed to a lunar when the operating rules were changed.

The Yellow lens was changed to a lunar and all circuit wiring was verified to plans. The location was placed back in service following a complete operational test.

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

437	1/11/1998	CSXT	CTC			Z35610	N/A	NAS Wauhatchie, Chattanooga, TN	N
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Failed Equipment or Device - Aerial or Underground Cable, Shorted or Grounded (not due to vandalism or digging)

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.

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.

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.

438	2/28/1998	CSXT	CTC			Q21327	None	Potomac Run, Fredricksburg, VA	N
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Human Error - Field Wiring Error, Inadequate Service Testing

On February 28, 1998, Q21327 was traveling south on the RF&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.

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.

The circuit was rewired to alter the DEDPR relay and the signal was returned to service after all operational checks were completed.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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439	4/24/1998	CSXT	CTC			Q21922	None	Godsend, Fostoria, OH	N
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Human Error - Field Wiring Error, Inadequate Service Testing

At about 10:48 AM on April 24, 1998, the crew on train Q21922 viewed a CLEAR aspect on the #10 signal (LE&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.

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.

440	6/22/1998	CSXT	CTC			Q50321	None	NE Weston, Weston, OH	N
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Human Error - Field Wiring Error, Inadequate Service Testing

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.

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.

Report #	Date	Reporting Carrier	Block System	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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441	7/17/1998	CSXT	CTC			U241	None	Three Mile, Mobile, AL	N
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Human Error - Signal Circuit Design Error, Inadequate Service-Testing

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.

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.

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.

442	7/20/1998	CSXT	CTC			Q59221	RCRE Cable	NE Lilly, Lilly, GA	N
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Failed Equipment or Device - Electrical Ground (not in underground or aerial cable)

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.

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.

The signals were returned to service after performing operational tests, megging cables and checking for grounds.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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443	7/31/1998	CSXT	CTC			Q22929	None	East Junction, Hamlet, NC	N
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Vandalism - Instrument Case, Cable, or Junction Box Damaged

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.

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.

The relay was righted, operational tests performed, and the signals were placed back in service at 0300.

Signal maintainer verified that bungalow was struck by City vehicle. CSX police spoke to City personnel [GVH].

444	10/1/1998	CSXT	CTC			X90129	None	Republic, OH	N
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Human Error - Improper Circuit Jumper in Place

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.

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.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
445	10/9/1998	CSXT	CTC			Q44009	None	NE Cherry, Plant City, FL	N
			Human Error - Field Wiring Error, Inadequate Service Testing						
			<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>						
446	12/14/1998	CSXT	CTC				None	NE Parkwood, Parkwood, AL	N
			Human Error - Field Wiring Error, Inadequate Service Testing						
			<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>						
237	2/4/2000	CSXT		Automatic		Q13501	None	Columbia Ave., Hammond, IN	N
			Human Error - Field Wiring Error, Inadequate Service Testing						
			<p>On February 4, 2000, Q33501 reported to the dispatcher that he had received a MEDIUM APPROACH indication at the WAS #1 Track at Columbia Avenue with train engine J701 in the block ahead. The signals were removed from service and Signal personnel were dispatched.</p> <p>Signal personnel simulated the movement and verified the false proceed indication. The westbound signal on #1 track at Columbia Avenue upgraded from STOP to MEDIUM APPROACH when the west end of the eastbound crossover from #1 to #2 track was reversed. Further investigation revealed that a pair of Safetran Dual Wideband Shunts were improperly applied around both insulated joints between the track circuits on #1 track. The improperly applied shunts acted as a DC shunt, allowing battery from the adjacent track circuit to pick the track relay when the shunt & break circuit broke the track circuit battery feed.</p> <p>The wiring error was corrected and the signals were returned to service following operational testing.</p>						

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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238	2/13/2000	CSXT	CTC			Q57911	Searchlight Mechanism	South Orange Grove, Pascagoula, MI	N
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Vandalism - Signal Damaged, Caused Unintended Signal Aspect

On February 12, 2000, at 2347 hours the Southward Absolute Signal from the siding at Orange Grove, Signal #6, went into time without a control. At 0012 hours on February 13, the dispatcher reported the signal hung in time and maintenance personnel were dispatched to investigate. At 0040, when southbound Q57911 occupied the siding, the dispatcher had the train crew report the signal aspect. Upon receiving the report that the signal was indicating Red over Yellow while the dispatcher had ordered it to stop, the dispatcher immediately removed the signal from service.

Upon arrival, Signal personnel verified the improper indication. Further investigation revealed that the searchlight signal mechanism had been vandalized. The outer compound lens had been broken, and pieces of the shattered lens were lodged in the signal mechanism causing the mechanism to be stuck in the Yellow position.

The signal mechanism was replaced, and the signal was placed back into service following operational testing.

239	4/11/2000	CSXT		Remote		H89611	None	E.E. Quinimont, Quinimont, WV	N
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Human Error - Improper Circuit Jumper in Place

At approximately 1515 hours on April 11, 2000, the crew of H89611 reported that they had received a MEDIUM CLEAR signal at MP 377 while proceeding eastbound out of the siding at E.E. Quinimont into a STOP signal at Backus MP 371. The signal should have displayed a MEDIUM APPROACH. Signal personnel were dispatched, verified the false proceed indication, and subsequently removed the signals from service.

Further investigation revealed that the R270 DR relay was improperly energized by a wire which ran directly to the BH-6 battery buss, effectively removing the #1 reverse polar contact of the R268 HDR from the circuit. This permitted the R270 DR relay to be energized when the R270 signal was requested without checking the aspect displayed at Backus.

The wiring error was corrected and signals were returned to service following operational testing.

The cause was found to be improper operational testing following field wiring changes.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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240	4/21/2000	CSXT	CTC			Y16221	#27 Track Circuit	Baldwin, Baldwin, FL	N
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Human Error - Field Wiring Error, Inadequate Service Testing

At approximately 1558 hours on April 21, 2000, northbound single engine Y16221 passed the northbound signal at Baldwin on the main track. The engine had previously indicated occupancy on two separate track circuits at Baldwin, but then indicated clear of the Baldwin circuits upon passing the northbound signal. When the track circuits indicated clear, a previously stored request began automatically lining signals. The switch at Baldwin subsequently reversed and a southbound route lined through Baldwin while Y16221 still occupied the track. The signals were removed from service and Signal personnel were dispatched.

Further investigation revealed that the track circuit had been altered by Signal employees attempting to resolve a previous track circuit problem. The employees believed that the existing track wires were faulty, disconnected the existing track wires, and replaced them with temporary wire. In re-wiring the track circuit, the employees failed to recognize the track circuit as a series fouling circuit, and inadvertently eliminated a short portion of the main track from the circuit.

The wiring errors were corrected, and signals were returned to service following operational testing.

The cause was found to be improper operational testing following field wiring changes.

241	4/23/2000	CSXT		Remote		N94820	#4 Signal	VR Tower, Walbridge, OH	N
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Human Error - Signal Circuit Design Error, Inadequate Service-Testing

At approximately 2315 hours on 4/23/2000 at VR Tower in Walbridge, OH, northbound train N94820 reported receiving a MEDIUM CLEAR (Red over Green) on the #4 Signal when lined for a crossover move from #1 track into the receiving yard through #7 and #5 crossovers reversed. The signal for this move should have been RESTRICTED (Red over Yellow). The following train, Q39723, made this same move and reported receiving a RESTRICTING signal. Upon notification, Train Control personnel were dispatched to investigate.

Further investigation revealed that when a signal was lined northbound on the #2 track at Yard D through the next northbound interlocking (#8 Signal), a Code 7 was sent back to VR Tower holding up the W2DR. This permitted a MEDIUM CLEAR signal to be displayed when the signal was lined on #2 track without checking the position of the #5 crossover.

The wiring error was corrected and signals were returned to service following operational testing.

The cause was found to be a design error.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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242	5/11/2000	CSXT	CTC			IHB Run 518	Design	CP Francisco, Blue Island, IL	N
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Human Error - Signal Circuit Design Error, Inadequate Service-Testing

On Thursday, May 11, 2000 at approximately 1022 hours Indiana Harbor Belt (IHB) Train Run 518 received a RESTRICTING signal at CP Francisco MP DC 14.9 (IHB MP 15.4) to proceed west on Track 1. At the same time, eastbound IHB Train NP 11 accepted an opposing approach signal at CP 123 (IHB MP 17.5) to proceed east on Track 1. Each train proceeded into the block until they viewed the opposing train and stopped. The signals were removed from service and Train Control personnel were dispatched.

Further investigation revealed that the false proceed was caused when the Call-on feature was initiated by the dispatcher, which permitted a RESTRICTING signal to be displayed at CP Francisco with an opposing signal already lined into the block.

Temporary wiring changes were made to disable the Call-on circuit, and signals were returned to service following operational testing.

The cause was found to be a design error.

243	7/19/2000	CSXT	AB			Q138-19	EB Signal, #2 Track	Scott Haven, PA	N
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Human Error - Field Wiring Error, Inadequate Service Testing

At approximately 1830 on 19 July, Q136-19 eastbound on #2 track reported a CLEAR signal with the crossover from #2 to #1 track lined against them. The eastbound signal on #2 track was removed from service.

The false clear signal was found to be due to a wiring error. The B-12 wire was found to be connected to the heel contact of a relay in the 51B circuit instead of to the front contact. The wiring error bypassed a relay contact which should have opened the HD circuit when the switch was reversed and set the signal to red. With this contact bypassed, the switch could be reversed without knocking down the opposing signal.

The wiring error was corrected, operational checks were performed, and the signals were restored to service at 2310.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
244	7/28/2000	CSXT	CTC			Q308-26	Signal 56N	Arlington, OH	N
Failed Equipment or Device - Aerial or Underground Cable, Shorted or Grounded (not due to vandalism or digging)									
<p>On July 28, 2000 northbound Q308-26 received an APPROACH aspect at intermediate signal 56N while the electric lock switch XA54 at the New Generation Industry Spur was lined reverse against the 56N signal. Signal 56N should have displayed an aspect no better than STOP AND PROCEED with the switch reversed. Train H719-26 had lined the switch reverse in order to set off a car in the industry track, and the signal went from STOP AND PROCEED to APPROACH when H719-26 cleared the fouling section of switch XA54. When H719-26 re-entered the fouling section, Signal 56N went back to STOP AND PROCEED. The switch was removed from service and Train Control personnel dispatched.</p> <p>The cause was found to be shorted HD conductors in a spliced aerial 12-conductor/14 line drop, caused by moisture shorting out the wires. The line drop was replaced, switch and signal checks were made with no exceptions, and the signals were returned to service.</p> <p>The cause was determined to be a material failure of the splice.</p>									
245	8/2/2000	CSXT	AB			None	WB Int., Signal #43	Westport Branch, Baltimore, MD	N
Maintenance - Pole Line (storm, excessive vegetation, rotting poles, excessive slack in wires, etc.)									
<p>On August 2, 2000, FRA officials observed westbound color light intermediate signal #43 displaying an APPROACH aspect (Yellow) with a local freight train in the block ahead. Signal 43 should have displayed a RESTRICTING aspect (Red). The signal was removed from service and Train Control personnel were dispatched.</p> <p>The cause was found to be pole line wires which had been pulled down by a large tree that fell across the line wires. The insulation on the wires was damaged, and the bare HD wires were shorted together.</p> <p>The pole and line wire were repaired, signal and switch checks were made with no exceptions, and the signals were returned to service. The cause was determined to be external damage from the tree to the pole line wire.</p>									
246	8/8/2000	CSXT	CTC			P052-07	Signal 6L	Fredericksburg, VA	N
Failed Equipment or Device - Electrical Ground (not in underground or aerial cable)									
<p>On August 8, 2000 at approximately 0720, northbound L174 while moving on #3 track between Hamilton Interlocking and Fredericksburg Interlocking reported the Northbound Signal (6L) for #2 track at Fredericksburg displaying an APPROACH aspect with Train P308-08 ahead in the block. Signals were removed from service and Train Control personnel dispatched.</p> <p>Investigation revealed a 4.4 mA ground which caused the 6LBPR relay to remain energized with the block occupied ahead. The cause of the ground was found to be deteriorated insulation on house wires which were contacting the metal wire chaseaway. All deteriorated house wires were replaced, signal checks were made with no exceptions, and the signals were returned to service.</p>									

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
247	8/20/2000	CSXT	AB			CP522	CP9 SB Sig., #2 Track	Tonawanda, NY	N	
			Maintenance - Pole Line (storm, excessive vegetation, rotting poles, excessive slack in wires, etc.)							
			On August 20, 2000, the train crew on southbound CP 522 observed the southbound signal on #2 track at CP9 displaying an APPROACH MEDIUM aspect with a STOP aspect at the next signal at CP8. The signal at CP9 should have displayed an APPROACH aspect. The signal was removed from service and Train Control personnel were dispatched.							
			The cause was found to be open line wires which were twisted together by a tree leaning into the pole line.							
			The tree was cut away, line wire was repaired, signal and switch checks were made with no exceptions, and the signals were returned to service. The cause was determined to be external damage from the tree to the pole line wire.							
248	8/24/2000	CSXT	APB			J769-24	Int Signals 762 & 738	N.E. Rensselaer, Rensselaer, IN	N	
			Maintenance - Pole Line (storm, excessive vegetation, rotting poles, excessive slack in wires, etc.)							
			On August 24, 2000, the train crew on northbound Train J773-24 was clearing the main into the siding through a reversed switch at MP Q72.9 in order to allow northbound Train J769-24 to pass. While the switch was still reversed, J769-24 received a CLEAR signal at Q76.2 (which should have been APPROACH) and a CLEAR signal at Q73.8 (which should have been STOP). The signals were removed from service and Train Control personnel were dispatched.							
			The cause was found to be an open line wire wrap of the CHD wire (part of the 3-wire HD circuit) and CE1 positive battery wire (part of the approach circuit between the Rensselaer siding switches). The line wrap was removed, signal and switch checks were made with no exceptions, and the signals were returned to service.							
249	10/13/2000	CSXT	APB			Q598-13	Semaphore Sig 147.0	Sugar Creek Bridge, Crawfordsville, IN	N	
			Failed Equipment or Device - Aerial or Underground Cable, Shorted or Grounded (not due to vandalism or digging)							
			At approximately 1200 on October 13, 2000, northbound Train Q598-13 reported that the signal at MP 147.0 was displaying a Yellow 45 degree signal (APPROACH) with northbound Train Q642-13 ahead in the block.							
			The cause was found to be damage to a temporary cable that had been installed across the bridge decking to facilitate bridge department crane work. The damaged cable was replaced with open line wire and placed back on the pole line. Signal checks were made with no exceptions, and the signals were returned to service.							

Report #	Date	Reporting Carrier	Block System	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
250	10/20/2000	CSXT	CTC			U833-17	#14 Dwarf CPL Signal	Mexico Tower, Cumberland, MD	N
<p>Cause</p> <p>Failed Equipment or Device - Interior Wiring</p> <p>At approximately 0113 hours on October 20, 2000, two engines (power for U833-17) were making an eastbound move from the Cumberland Terminal 4 East Lead to the PPG Lead. As the engines passed the #14 westbound signal on the PPG Lead, the crew looked back and observed the #14 signal displaying a RESTRICTED PROCEED (two reds over a "B" marker light) instead of STOP (two red lights) while one engine still occupied the track circuit behind the signal. The signals were removed from service, and Train Control personnel were dispatched.</p> <p>The cause was found to be worn insulation on the cable for the "B" marker light, which had made contact with the energized Red aspect terminal buss. The cable was repaired, signal checks were made with no exceptions, and the signals were returned to service.</p>									
251	10/21/2000	CSXT		Remote		L256-21	2WA Signal	CP-124, Ridgeway, OH	N
<p>Human Error - Signal Circuit Design Error, Inadequate Service-Testing</p> <p>At approximately 0500 hours on October 21, 2000, Train L258-21 was westbound on #1 track awaiting the 2WA signal to proceed into Hayes siding through the #4 crossover reversed. When the signal was received, the crew initially observed a RESTRICTING signal (NORAC Rule 29 - Red over Yellow) which changed to a MEDIUM CLEAR (Rule 283 - Red over Green). The signal should have been RESTRICTING. The signals were removed from service, and Train Control personnel were dispatched.</p> <p>The cause was found to be a design error in the circuit, which included an extra wire allowing the 2WA-BDR to be energized when the #3 crossover was reversed regardless of the position of the #4 crossover. The wire was removed, signal checks were made with no exceptions, and the signals were returned to service.</p>									
252	11/27/2000	CSXT	CTC			Q67425	Phantom	SF-269, Pee Dee, SC	N
<p>Phantom Signal - Due to Sun Angle</p> <p>Train Q674-25 reported a Yellow over a dimly lit offset Green aspect on the Northbound Automatic Signal in approach to the South End of Pee Dee. Crew reported to signal personnel in the area who observed this condition and took immediate action by removing the signal from service then removing the bulb from the offset green lamp. As a follow-up we installed a two aspect signal head with snow hoods in place of the offset green signal. After full operational testing the signal was restored to service. We are reporting this but we do not consider this to be a false proceed.</p>									

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
253	12/12/2000	CSXT	CTC			M742-11	#6 Dwarf Signal	N.E. Live Oak, Live Oak, FL	N	
			Human Error - Improper Circuit Jumper in Place							
			<p>At approximately 0040 on December 12, 2000, Train M742-11 backed southward into the siding at the North End of Live Oak MP SP 713.4 on the Tallahassee Subdivision. When the switch into the siding was restored to normal, the crew observed that the dwarf signal governing movement out of the siding displayed a Red over Yellow (MEDIUM APPROACH) signal. The signal was removed from service and Train Control personnel were dispatched.</p> <p>The cause was found to be a jumper which had been installed the previous day to set the lamp voltage on the Yellow aspect after replacing the dwarf signal, which had been damaged by track equipment. This jumper caused the Yellow aspect to be continuously illuminated. The jumper was removed, signal tests were made with no exceptions, and the signals were returned to service.</p>							
254	12/21/2000	CSXT	CTC			K996-20	None	Mango, FL	N	
			Failed Equipment or Device - Relay							
			<p>On December 21, 2000, K996-20 while traveling SB reported the SAS at NE Mango displaying an alleged CLEAR indication. K996-20 reported a STOP indication at the SAS SE Mango coming to a controlled stop beyond the limits of the SE Mango. Signals were immediately removed from service at the NE and SE Mango. Additionally the train dispatcher reported an inability to control the signal at the NE Mango prior to the arrival of K996-20. K996-20 was instructed to handle the switch NE Mango from motor to hand lining the switch reverse and restore the switch to motor position. K996-20 failed to perform this instruction. Subsequent investigation revealed no exceptions. Additional field investigation was performed by CSX and the signal mechanism apparently operated slower than normal. The signal mechanism was replaced and after full operational testing the signal was restored to service. On January 4th FRA performed a field investigation and made an assumption alleging that the signal mechanism was slow on December 21, 2000. We are reporting this but we do not consider this to be a false proceed.</p>							
300	1/25/2001	CSXT	CTC			None	Switch Repeater	318-2 EB Int. Signal, Maidens, VA	N	
			Human Error - Field Wiring Error, Inadequate Service Testing							
			<p>EB Train V454-22 while running on Number 1 track observed the EB Intermediate signal on Number 2 Track displaying a RESTRICTED PROCEED signal which upgraded to APPROACH while the block ahead was occupied by the B010-25 working at Wood Yard Switch on Number 2 Track. The signal was immediately removed from service. Investigation revealed a wiring change error due to a switch's derail removal. The wiring error was a misapplication of relay tag identity and connecting the wiring to the wrong switch repeater relay thus eliminating a track circuit break in the switch repeater circuit. Wiring was corrected and full operational tests were made. Signal was restored to service.</p>							

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
301	2/6/2001	CSXT	CTC			Q453-06	Phantom Aspect	10 Signal So. Wye, Waycross, GA	N	
			Phantom Signal - Due to Sun Angle							
			<p>16:35, 02-06-01, 10 Signal at Waycross south wye was over-run by Q453-06 to track J02 south bound. Train crew reported they had stopped and rechecked the 10 signal indication and agreed on the RESTRICTING indication and passed the signal. Upon arrival, signal personnel observed the sun shining directly into the 10 signal, with Q453 stopped occupying yard lead, 10 signal OS, 5 switch normal, and J02 track. The top red aspect was clearly visible. The middle aspect indicated a white reflection from left to right, approximately 1" in height, top and bottom part of lens was darker in appearance. The bottom red aspect indicated dull red to orange appearance. Signal personnel performed full operational checks and inspections with no exceptions noted. Signals returned to service at 21:00 on 02-06-01. A test with a locomotive, signal & transportation personnel occurred on 02-07-01 at 16:30 to simulate the previous day's conditions. The test was conducted with bright sun shine conditions. While on a locomotive about 30 feet from 10 signal, observing personnel could not determine when the signal had changed from STOP to RESTRICTING with direct sun light into the face of the signal. Signal department immediately changed the lower red lens, screening and installing longer hoods. We are reporting this event but we do not consider this to be a false proceed.</p>							
302	2/19/2001	CSXT	CTC			Q297-19	Design	PA Tower, Fort Meade, MD	N	
			Human Error - Signal Circuit Design Error, Inadequate Service-Testing							
			<p>At about 2130 on 2-19-01 B702-19 was traveling WB on #1 Track crossing over to #2 Track at Savage. After B702 cleared Savage, Train Dispatcher requested #3 crossover Savage normal and #8 Signal WB on #2 Track behind B702 for a following train Q297-19. As Q297 approached the #2 WB signal at PA Tower the train crew reported an APPROACH MEDIUM signal with B702 ahead in the block west of Savage. This signal should have been an APPROACH signal into the RESTRICTED PROCEED following B702. Signals were immediately removed from service and Train Control personnel dispatched to the location for investigation. The investigation revealed a design error at Savage that allowed a Code 3 generated and sent to PA Tower when a RESTRICTED PROCEED signal was displayed at Savage. A corrected design was sent to the field and installed. Full operational checks were made and the signals were restored to normal service at 1500 on 2-21-01.</p>							
303	3/10/2001	CSXT	CTC			V829-10	Phantom Aspect	D Tower, Grafton, WV	N	
			Phantom Signal - Due to Sun Angle							
			<p>On Saturday evening March 10, 2001 eastbound train V829-10 running from the Fairmont Subdivision to D Tower at Grafton reported a RESTRICTING signal. Initial investigation revealed that the signal had not been requested by the Jacksonville dispatcher. Signals were removed from service pending investigation. The field investigation revealed that the signal was at STOP but was sunlit. The team refocused the signals and installed an additional screening material as the signals already had Phankill installed. We are reporting this event but we do not consider this to be a false proceed.</p>							

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
304	3/11/2001	CSXT	CTC			N773-05	Phantom Aspect	North Acca, Richmond, VA	N
			Phantom Signal - Due to Sun Angle						
			On Sunday, 3-11-01 at about 10:45 hours crew on northbound N773-05 reported a RESTRICTING signal on the northbound signal #4 track at North Acca. Initial investigation revealed the signal had not been requested by the Jacksonville dispatcher. Signals were removed from service pending investigation. Field investigation revealed the signal was at STOP but was sunlit. A long hood was installed on the bottom green unit which was sunlit and appeared Lunar. We are reporting this event but we do not consider this to be a false proceed.						
305	3/12/2001	CSXT	CTC			Q245-10	Workmanship	Vandalia, OH	N
			Human Error - Signal Circuit Design Error, Inadequate Service-Testing						
			On 3-12-01 train Q245-10 received a MEDIUM CLEAR signal entering the siding at Vandalia into a MEDIUM CLEAR signal crossing over at Vandalia crossover. Signals were removed from service pending investigation. Field investigation revealed that recently installed signals were designed for medium speed while a slow speed crossover was in service. The signals were immediately downgraded to RESTRICTING and STOP. Proper test and inspections were performed and signals were restored to service.						
306	4/11/2001	CSXT	CTC			U724-10	Workmanship	Sproul, WV	N
			Maintenance - Switch Circuit Controller						
			On 4-11-01, train U72410, coming off the Coal River Subdivision, reported an APPROACH signal westbound at Sproul Junction immediately after T78308 cleared OS circuit ahead. This should have been RESTRICTING. T78308 was a westbound train on the Big Coal Subdivision. The signals were removed from service pending investigation. The field investigation revealed that the reverse point detector stud had become loose and backed off on a T-21 hand throw switch for the spur track. This allowed both NWP and RWP relays to become energized at the same time. A contributing factor was the absence of a check circuit that would prevent the energizing of both the NWP and RWP relays simultaneously. Changes have been made and signals restored to service.						
307	4/27/2001	CSXT	CTC			T676-23	Workmanship	Apex St. Albans, St. Albans, WV	N
			Human Error - Field Wiring Error, Inadequate Service Testing						
			At 0216 hours on April 27, 2001, the train crew of T67623 reported having a MEDIUM APPROACH SLOW (R/Y/G) into a MEDIUM APPROACH EB signal at the Apex Wye at St. Albans. The eastbound signals were removed from service at the Apex Wye at St. Albans. The proper signal should have been a SLOW CLEAR (R/R/G). This was confirmed in testing by signal personnel. The preliminary investigation revealed a wire in the lighting circuit was incorrectly wired to the heel contact of the LA8JR. The wire should have been on the back contact of this relay. This allowed the Yellow aspect to be energized rather than the Red aspect. After consulting with signal design personnel, wiring was corrected and testing completed. The signals were returned to service.						

Report #	Date	Reporting Carrier	Block System	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
308	7/5/2001	CSXT	AB			D750-05	Workmanship	Signal 1598, Sterling, OH	N
<p>Cause</p> <p>Narrative</p> <p>Human Error - Signal Circuit Design Error, Inadequate Service-Testing</p> <p>At 0845 hours on July 5, 2001, D750-05 train crew observed Signal 1598 displaying a CLEAR (G/R) signal while moving eastbound, following behind train K518-02, which was ahead in the second block. D750-05 stated that Signal 1598 stayed CLEAR for approximately 30 seconds before changing to an APPROACH aspect (Y/R). D750-05 train crew informed the train dispatcher of the signal incident and dispatcher informed the train crew to treat the signal as RESTRICTING. Signals were removed from service. Investigation revealed that the line overlay was not properly broken through the track relays, thus giving the improper signals. Design was notified and the proper wire breaks were designed, installed and tested. Signal system was restored to service.</p>									
309	12/14/2001	CSXT	CTC				Train Bulletin	Crandle Road, Walbridge, OH	N
<p>Human Error - Incorrect Bulletin Provided to Train Crew</p> <p>At 1500 on December 14, 2001, Supervisor responded to a report that the signals at Crandle Road indicated MEDIUM APPROACH indication (R/Y/R) over a #10 turnout when lined over the #1 crossover. The northbound signal on #2 track and the southbound signal on #1 track were removed from service. Verified the aspects and found a Detroit Division General Train Bulletin issued at 0001 on 10/01/01 incorrectly stating the signals at Crandle Road are Seaboard-style signals and are to be governed by CSX signal rules 281 through 296 and should have been Chessie-style signals covered by CSX Rules C281 through C296. The signals were restored to service at 1715.</p>									
346	12/31/2001	CSXT	CTC			NS 6688	Insulated Joints	High Bridge, KY	N
<p>Failed Equipment or Device - Insulated Joint(s)</p> <p>On 12/31/01 at 2:10 a.m., Central Division Train #50VT830, lead unit NS 6688, proceeding southbound on Track #1 at High Bridge, KY, observed the home signal at High Bridge Control Point, MP-102.5, to display a CLEAR aspect for the train's movement. The signal should have displayed an APPROACH aspect due to the signal in advance, located on Track #1 at Control Point Brown MP-105.0, displaying STOP aspect. Train #50VT8 was aware of the dispatcher's plan for a meet with an opposing train at Brown and was able to stop the train short of the home signal at that location.</p> <p>Investigation revealed that the track circuit on #1 track between High Bridge and Brown had the presence of foreign AC current on the rail. This allowed the track relay at High Bridge to intermittently pickup, and energize the decoder and associated relay pertaining to the CLEAR aspect. The presence of foreign current was attributed to two defective insulated joints on #1 track at High Bridge, one being shorted and one having low resistance.</p> <p>As a corrective measure, both insulated joints were replaced. As an additional precaution, 60 cycle reactors were installed on the involved circuit at both High Bridge and Brown. The signal system was tested and returned to normal service at 4:15 p.m.</p>									

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
347	2/27/2002	CSXT	CTC			R27627	None: Phantom	NAS Contentnea #2 Tr., Contentnea, NC	N	
			Phantom Signal - Due to Sun Angle							
			<p>On February 27, 2002 at about 1545 hours the crew of K27627 reported a RESTRICTING signal (R/R/L) at the NAS Contentnea, NC Number 2 Track at MP A139.0. Investigation revealed that the signal was working as intended and the RESTRICTING aspect was due to being sunlit and was verified as a phantom aspect. The signal backgrounds were painted, outer lens replaced and realigned signal to the apex of the curve. Phantom screens were ordered and will be installed upon receipt. After the mitigating action the signal was rechecked under similar conditions and now exhibits no aspect exceptions. We are reporting this event but we do not consider this to be a false proceed.</p>							
348	4/9/2002	CSXT	CTC			H75709	Aerial Cable	W.E. Gordonsville, Gordonsville, VA	N	
			Failed Equipment or Device - Aerial or Underground Cable, Shorted or Grounded (not due to vandalism or digging)							
			<p>At 18:25 on April 9, 2002 H75709 was operating westbound in the siding at the west end of Gordonsville. The switch was lined reverse and the westbound dwarf signal displayed a SLOW CLEAR (G) for the train to leave the siding. The train crew then observed a CLEAR (G/R) signal westbound on the main at the west end of Gordonsville. This signal should have been at STOP. H75709 stopped and reported the incident to the dispatcher. The signals were immediately removed from service and signal personnel were dispatched to the location. Upon arrival, Signal Supervisor and team verified this condition. Further investigation revealed foreign battery applied to the H-D line circuits causing the signal on the main to incorrectly indicate CLEAR. The line circuits were opened and the signals in both directions at the west end of Gordonsville were left out of service until repairs completed. Investigation revealed the aerial cable at the West End of Gordonsville junction box showed signs of moisture and corrosion. The affected aerial cable was removed from the junction box and the terminal strips were cleaned. Some of the conductors were cut off and the cable was reterminated. All conductors passed the megging test to ground and the cross megging test. The aerial cable was then restored to the signal system. Operational tests were performed with no exceptions taken. Signals were restored to service.</p>							
349	5/5/2002	CSXT	CTC			Q68905	None - Phantom	N.E. Osierfield, Osierfield, GA	N	
			Phantom Signal - Due to Sun Angle							
			<p>At about 17:40 hours on May 5, 2002 train Q68905 reported an APPROACH signal at the N.E. Osierfield for about 5 to 8 seconds with a train in the block ahead. Investigation revealed that the signal was working as intended and the APPROACH aspect was due to being sunlit and was verified as a phantom aspect. Individual hoods were installed on each affected signal. After this mitigation action the signal was rechecked under similar conditions and now exhibits no aspect exceptions. We are reporting this event but we do not consider this to be a false proceed.</p>							

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
350	5/17/2002	CSXT	CTC			Q69617	None - Phantom	Monroe, NC	N	
			Phantom Signal - Due to Sun Angle							
			Train Q69617 arrived at Monroe from Charlotte at about 1800 hours. Dispatcher is lined for a mainline move at the north end of Monroe but will put signal to STOP and route Q69617 NB out of the siding onto #1 track. The Engineer on Q29217 states he called the signal as a SLOW CLEAR and as he approached the switch it was lined for main so he stopped train and reported incident to the train dispatcher. Signals were removed from service and signal personnel dispatched to the site. Investigation revealed that the signal was working as intended and the SLOW CLEAR aspect was due to interference from the sun and was verified as a phantom aspect. Individual hoods were installed on the affected signal and phantom reducing screens were installed. After this mitigating action the signal was rechecked under similar conditions and now exhibits no exceptions. We are reporting this event but we do not consider this to be a false proceed.							
351	8/14/2002	CSXT	CTC			K650-13	Relay	St. Stephen, NC	N	
			Human Error - Signal Equipment Improperly Installed							
			At 0630 on August 14, 2002, train crew report on K65013 while operating northbound on the single main track to #2 track over a reversed switch, observed and reported a CLEAR indication (Green) at the intermediate signal MP A355 and a LIMITED CLEAR (Red over Flashing Green) at South St. Stephen when the intermediate signal should have displayed an APPROACH LIMITED (Yellow over Flashing Green). The signals were removed from service at 0645 and a team was dispatched to the site to investigate this event. Investigation revealed that the RHHR relay, a DN-11 style shelf relay, had vibrated off the shelf and was found inverted, hanging by the wires in the equipment house at St. Stephen which caused a signal to be displayed at the intermediate signal indicating better than conditions warranted. The relay was up righted and an anti-vibration assembly was installed. Complete operational tests were performed with no exceptions taken. Signals were restored to service at 1100 on 8/14/02.							
352	8/15/2002	CSXT	CTC			Q579-14	None - Phantom	S.E. Hurricane, Bay Minette, AL	N	
			Phantom Signal - Due to Sun Angle							
			At 8:40 AM on August 15, 2002, southbound Q579-14 reported a MEDIUM APPROACH from siding to main track at the South End of Hurricane (Red/Yellow) while the switch was lined for the main track at the South End of Hurricane. Signals were removed from service and Train Control personnel conducted an investigation revealed that the 59C Dwarf Signal appeared sunlit. 18 inch hoods and a vandal proof cover were installed. Signals were restored to service on 8-16-02. We are reporting this event but we do not consider this to be a false proceed.							

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
353	8/30/2002	CSXT	CTC				None - Phantom	S.E. Gorman, Gorman, TN	N
			Phantom Signal - Due to Sun Angle						
			At 10:30 AM 8/30/02, received report of a CLEAR indication (Green over Red) on the S.B. Dwarf signal at the SE Gorman without a signal requested from the Operations Center as verified by the system log. Signal was removed from service and investigated by Train Control. Investigation revealed that the signal appeared to be sunlit. The affected signal head was replaced, operational tested and restored to service. We are reporting this event but we do not consider this to be a false proceed.						
354	10/4/2002	CSXT		Automatic		NS-B46	Wiring	Warsaw Crossing At Grade, Warsaw, IN	N
			Human Error - Field Wiring Error, Inadequate Service Testing						
			At approximately 03:15 on October 4, 2002 the southbound train NS-B46 traveled across the Warsaw Interlocker (Railroad Crossing at Grade) in Warsaw, IN. The NS-B46 proceeded south into the siding at CP 33 (Claypool). The southbound train NS-175 followed the NS-B46 across the Warsaw Interlocker. The crew of the southbound NS-175 reported that they had received a CLEAR indication at the Warsaw Interlocker and a STOP indication at Signal 30 with the NS-B46 ahead. The Warsaw Interlocker was removed from service and Norfolk Southern signal personnel were dispatched. Norfolk Southern signal personnel contacted CSX signal personnel at 07:45. The Norfolk Southern signal personnel was able to re-create the False Proceed signal through standard field testing procedures. During the investigation it was discovered that a Code Following Relay with Frequency Decoding Contacts (STPAR) had the negative control wire for the relay device (SBDR) that supplies battery to the 4S signal on the number 4 (four) contact when it should have been on the number 1 (one) contact. The number 4 (four) contact is a non-tuned contact that follows the working action of the relay. The number 1 (one) contact is a tuned contact that follows the working action of the relay only when the action reaches a minimum of 115 code cycles through a maximum of 125 code cycles. The use of the number 4 (four) contact supplied battery to the SBDR. Further investigation revealed that the circuit plans for the location show that the wire was designed to be on the number 1 (one) contact on the STPAR and the condition was corrected. The appropriate tests were made and the Warsaw Interlocker was returned to service.						
355	10/11/2002	CSXT	AB			Q416-09	S8PT Connectors	W.E. Space Center, Lordstown, OH	N
			Maintenance - Switch Circuit Controller						
			On October 11, 2002 at 6:00 AM the Q416-09 approached intermediate signal W90.41, displaying a CLEAR signal and stopped east of the signal, made a cut on Q416-09 to pick up cars at the West End Space Center, Goodman Yard. The train crew went west of intermediate signal W90.41 and observed that the signal indication changed to RESTRICTED PROCEED. The crew went west of the trailing point switch, threw the switch reverse and entered the West End Space Center. The switch was left open while working and upon clearing the fouling circuit, train crew reported that the W90.41 signal indicated CLEAR. When the train crew came back out onto the fouling circuit, W90.41 signal indicated RESTRICTED PROCEED. The train crew tied back onto their train, restored the switch normal and proceeded west with permission. Signals were removed from service and signal personnel dispatched to the site. Investigation revealed that corroded track connections from the circuit controller to the rail were the cause of the false proceed signal. All track connections from the circuit controller to the rail were renewed and a new switch circuit controller installed. Full operational tests were performed and the signals were restored to service.						

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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356	12/20/2002	CSXT	CTC			Y133-20	None - Phantom	CP Woods, Indianapolis, IN	N
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Vandalism - Signal Damaged, Caused Phantom Aspect

At about 1520, the Y133-20, lead engine CSX 2759 and two hoppers, reported a SLOW APPROACH at CP Woods while traveling eastbound on yard track "B" in the Chevrolet Transfer Yard. The crew of the Y133-20 questioned the IC dispatcher as to their route, when they were informed to stop their movement due to a signal not being requested at the control point. Signal personnel were dispatched to the scene and upon arrival, found the #2E-2 signal displaying a STOP indication. The #2E-2 signal is a two position color light signal that had a yellow aspect in the "A" head and a red aspect in the "B" head. Observations made 20 feet away from the signal found a faint yellow aspect visible and a red aspect displayed in "B" position with no signal requested. Further inspection revealed that vandals had damaged the outer lenses of the yellow and red aspects. All ground and cable integrity tested within FRA specifications. Lamp voltages on the red and yellow lamps were 9.5V, with no voltage/current evident on the yellow aspect circuitry with the signal at STOP. With the signal requested, depending on the route, either a Yellow/Red or a Yellow aspect illuminates. All routes were lined displaying the correct aspects. This signal displays only SLOW APPROACH, RESTRICTING or a STOP indication. The diagnostic logs from the Indianapolis Dispatching Center confirmed that the signal was not requested. Replaced the vandalized lenses, installed longer hoods and returned the signal to operation. We are reporting this event but we do not consider this to be a false proceed.

392	1/25/2003	CSXT	CTC				Lock Rod Clip	E.E. Georgia, Georgia, IN	N
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Maintenance - Switch Circuit Controller

At about 1425 hours, Q554-25 heading westbound at the East End of Georgia on the Indiana Sub, while Q565-24 was stationary in the siding reported receiving an APPROACH signal. While occupying the OS section of the East End Georgia the crew on Q554-25 observed the switch aligned reverse toward the standing Q565-24. Q554-25 stopped short of the Q565-24. Signals were removed from service and signal personnel dispatched to the scene. Inspection revealed that the internal point detector rod broke leaving the point detector circuit controller indicating the switch in the normal position with the switch points physically reversed thereby allowing a signal request cleared to the standing train in the siding while the circuitry appeared to be lined for the main track resulting in a false proceed signal. Investigation also revealed that an improper installation (clip installed backwards) of the lock rod clip that ensures that the "H" contacts center in the event that the point detector rod breaks and doesn't follow the movement of the switch points. Signal personnel replaced the broken point detector rod, properly installed the lock and clips, performed all operational tests and upon satisfactory completion restored the signals to service. Subsequently, a system-wide instructional notice has been issued to all signal personnel to inspect all switch machines of similar make to ensure that there are no other improperly installed lock rod clips in service.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
393	4/3/2003	CSXT	CTC				Design	South End, Nashville, TN	N	
			Human Error - Signal Circuit Design Error, Inadequate Service-Testing							
			<p>0230 on April 03, 2003 a false proceed signal at South End Interlocking in Nashville Terminal was reported. A signal team responded to the report that signal #14 was CLEAR with the next signal at STOP. The signals were immediately removed from service pending investigation. The signal team determined the sequence of events that led up to the time of the incident as follows. The dispatcher requested signal #14 and then requested signal #6 with a switch reverse at South End. He then requested a southbound signal at Oak Street the next interlocking south. The switch at signal #6 failed to lock up reverse which resulted in signal #6 remaining in the STOP position. The signal at Oak Street cleared which resulted in signal #14 at South End upgrading to a CLEAR into #6 at STOP. Further investigation revealed that the circuitry would allow this failure to occur. The design shop in Jacksonville was contacted concerning the design issues and supplied the necessary correction. Corrections were applied and operational tests were performed with the signal system returned to service upon satisfactory completion at 1130 hours.</p>							
394	7/2/2003	CSXT	CTC			Q208-02	None: Phantom	South Latonia, Kenton, KY	N	
			Phantom Signal - Due to Sun Angle							
			<p>At 1500 on July 2, 2003 the NB train Q20802 reported getting a RESTRICTING signal, Lunar over Red, out of the siding with the switch in the normal position and SB X20101 occupying the track ahead. The signals were taken out of service and signal personnel were dispatched to investigate.</p> <p>The Maintainer and Signal Supervisor viewed the signal from the train and from the ground and determined that the sun created an effect on the signal in such a way that a Lunar over Red was displayed when the signal should have displayed Dark over Red. The Maintainer and Supervisor tested the signal system and determined signal system was working as designed. The signals were placed back in service. Longer hood was installed and the signal was refocused to mitigate the effect of sunlight on the signal. We are reporting this event but we do not consider this to be a false proceed.</p>							
395	8/28/2003	CSXT	CTC			N935-15	Wiring	East End of B&O Siding, Fostoria, OH	N	
			Human Error - Field Wiring Error, Inadequate Service Testing							
			<p>On August 28th at approximately 21:10, westbound N93515 on #2 track at the East End of the B&O center siding, reported receiving a Yellow over Yellow (APPROACH SLOW) into a STOP signal at the West End of the B&O center siding. Signals were removed from service and signal personnel were dispatched. During testing and inspection of the signals, it was discovered that a wiring change from a prior project was made incorrectly that allowed the improper aspect to display if the R178WFSR stick relay was picked. The wiring error was corrected, operational tests were performed and the signals were returned to service.</p>							

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?	
			Cause							
			Narrative							
396	9/8/2003	CSXT	CTC			Q27808 - L29607	Wiring	Lemoyne, OH	N	
			Human Error - Field Wiring Error, Inadequate Service Testing							
			<p>On Sept. 8th at 13:44, Q27808 was sitting at the westbound absolute signal number #1 at Lemoyne, MP CD 111.0, waiting to cross over to #2 track following the L29607. L29607 was WB on #2 track. Q27808 heard the L29607 call the aspect on the 1071-2 intermediate signal, the 2nd intermediate west of Lemoyne. Q27808 observed the WB signal on #2 track display a MEDIUM CLEAR, Red over Green, for 6 to 8 seconds before slotting off to STOP. The event log indicated the WB signal at Lemoyne had gone into time. The signal was removed from service. A simulation recreation of the false clear. An investigation revealed that the coded track circuit west of the 1091-2 intermediate signal, the first intermediate west of Lemoyne, when shunted, had an 8 to 10 second delay before the 1092-2 or 1071-2 HD relays would be deenergized. The 8 to 10 second delay was found to be caused by wires on a front and back contacts of the 1092-2 ZTR, code following relay, that had been reversed and were not according to design. This resulted in energy being applied to the positive coil wire of the 1092-2TPR when the track circuit was shunted. The 1092-2TPPR drops the HD circuits. The 1092-2TPPR wasn't dropping immediately due to a capacitor, which by design, was across the coil wires causing an 8 to 10 second drop delay while the capacitor bled off. This caused the improper aspect to be displayed for eight to ten seconds as reported. The wiring error was corrected, operational tests were performed with no exceptions. The signals were placed in service.</p>							
397	10/21/2003	CSXT	CTC			Q52621	Workmanship	Montfort, MP 172.2, Hendersonville, TN	N	
			Human Error - Field Wiring Error, Inadequate Service Testing							
			<p>At approximately 1227 on October 21, 2003, northbound Q52621 received a CLEAR (Green) signal at MP 172.2 with northbound Q28621 in the second block ahead. The correct signal should have been an APPROACH (Yellow). Signals were set to Red and removed from service and Train Control personnel were dispatched.</p> <p>The cause was found to be a broken cable at a circuit controller which had been spliced together incorrectly earlier that day and placed back in operation at approximately 1200 hours without proper operational tests being performed. The wiring error was corrected, operational tests were performed, and signals restored to service.</p>							

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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398	11/25/2003	CSXT	CTC			Z16025	None: Phantom	Hopple Street, Cincinnati, OH	N
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Cause

Narrative

Phantom Signal - Due to Sun Angle

Northbound NS train on #1 track passed by a STOP signal at 10:19 11-25-03. Logs were pulled and indicated signal was at STOP. Train crew reported they had an APPROACH at previous signal at Tower A and then a RESTRICTED PROCEED at Hopple Street. Signal personnel were dispatched and upon arrival, observed signal at STOP. Crew also stated that when they saw the dwarf signal, they were about two cars away from the signal and it was lit Green - Yellow with white lights underneath. As the train went by the signal, they also saw Red indications with white light, which they took as RESTRICTED PROCEED. With the above information, Transportation officers from NS, CSX and CSX signal personnel returned to Hopple St. to observe the signal. We observed the sun was shining bright on this day and would have been behind the approaching train's back and could have been shining directly into the signal at the time of the incident. Operational tests were performed on the signal and no exceptions were taken.

Further investigation on 12/01/03 (next day of similar light conditions) was conducted and it was observed that the sun was shining into the signal making it look as though all lights were lit.

Dwarf signals on #1 and #2 tracks were realigned forward to vertical. This action substantially reduced the effect of the sun shining on the lenses. Hoods on these signals are 7 inches long. 12 inch hoods have been ordered and will be installed upon delivery. We are reporting this event but we do not consider this to be a false proceed.

433	1/2/2004	CSXT	CTC			071502	Relay	North End of Indiantown, Indiantown, FL	N
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Failed Equipment or Device - Relay

At 1430 hours on January 2, 2004, train crew report on O71502 while operating southbound on signal main track into signal siding over reverse switch, observed and reported a MEDIUM APPROACH (Red over Yellow) into the siding with a set of cars setting in siding. The signals were removed from service at 1645 hours and a team was dispatched to the site to investigate this event. Investigation revealed that the RBCTPR relay, a Track Coding Relay, had bridge contacts, allowing the Code Following Relay (RBTR) to be energized. Further investigation revealed that the RBCTPR relay contacts were allowed to become bridged from the constant shunting of the track from the train cars left in the signaled siding for a long period of time. The constant coding at a high current value caused the contacts to become pitted and bridged. The cars were stored in the siding three weeks prior to the incident.

The RBCTPR relay was replaced and a circuit design to open the negative coil path through the RBCTPR relay coding contact. Signals were restored to service at 1400 hours on 1/9/04.

Report #	Date	Reporting Carrier	Block System	Interlocking Systems	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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434	1/19/2004	CSXT	CTC			P05218	Design Error	West AY, Richmond, VA	N
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Human Error - Signal Circuit Design Error, Inadequate Service-Testing

At 06:57 on January 19, 2004, P05218 reported the northbound intermediate to West AY was showing CLEAR (Green) with a diverging route lined from #1 to #2 track at West AY. The signal at West AY was displaying a SLOW CLEAR (Red/Red/Green). The signals were removed from service and signal personnel were dispatched. Upon arrival at the location, signal personnel were able to duplicate the reported condition during testing. Initial investigation revealed a design error which allowed the Electrocode unit at West AY to send code to the intermediate signal (26W) allowing a more favorable signal to be displayed at the intermediate with the diverging route lined up. The proper signal aspect at the intermediate should have been APPROACH (Yellow). The design error was verified by office personnel. The circuit was redesigned and field personnel made the necessary changes. The signals were checked and returned to service.

No. of Reports Shown in this Listing: **100**