



IronWood Technologies

Railroad Accident Reconstruction

Federal Railroad Administration

False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - State of Alabama

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
14	4/20/1995	CSXT	CTC			Train U23917	None	Jemison, AL	N
<p>Cause</p> <p>Narrative</p> <p>Scenario Reenacted, Unable to Duplicate, No Defects Found</p> <p>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.</p> <p>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.</p>									
133	5/4/1997	CSXT	CTC			Q68402	Signal Mechanism	Oakworth, Decatur, AL	N
<p>Failed Equipment or Device - Relay</p> <p>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.</p>									

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147	6/25/1997	NS	CTC			6594-8971	Human Error	Parrish, AL	Y
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Human Error - Field Wiring Error, Inadequate Service Testing

At approximately 11:49 PM, Train No. 152, running east on signal indication, derailed on the west end of No. 2 power crossover at Parrish, MP NA-95.6.

The west end switch is a facing point move for eastbound trains. Though the route requested and the signal indication were for a straight move, the west end switch was found to be locked up in the reverse (crossover) position. TC logs showed a normal indication for this crossover since about 3:00 PM that day.

Investigation revealed that a combination of two wiring errors in the Parrish signal bungalow resulted in this accident. The first error, precipitated by an outsider cutting some of the underground cabling, resulted in the crossover correspondence relays being controlled only by the condition of the east end switch. The west end of the crossover had been erroneously patched out of the correspondence circuit. The crossover had apparently been operated this way without incident since June 10th. Then sometime presumably during the early afternoon of June 25th, the motor control straps (in the bungalow) were inadvertently removed from the west end switch while it was in the reverse position. Then when the Birmingham dispatcher requested the crossover normal at about 3:00 PM, the east end threw normal and, due to the first wiring error, picked up the normal switch correspondence relay in the bungalow. The west switch stayed locked up reverse since motor control was absent. With the crossover in this condition likely three trains, running on signal indication trailed through the west switch running westbound on the main track. The trains and approximate times were: No. W73 at about 4:01 PM, No. 319 at about 6:01 PM, and No. 191 at about 8:06 PM. Marks found on the switch point following the derailment indicated that the switch had been run through by at least one westbound move on the main while the switch was laying reverse. The point was probably bent open by this action, and this set up the condition for a derailment on the next eastbound train.

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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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.

446	12/14/1998	CSXT	CTC				None	NE Parkwood, Parkwood, AL	N
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Human Error - Field Wiring Error, Inadequate Service Testing

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.

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.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
256	3/4/2000	NS	CTC			6681	Dwarf Signal	Norris Jct., AL	N
<p>Cause</p> <p>Narrative</p> <p>Phantom Signal - Due to Sun Angle</p> <p>At approximately 2:50 p.m., Train No. 192A504 was leaving Norris Yard eastbound and called a DIVERGING CLEAR indication (R/G) at Home Signal 27L - Norris Jct., MP 790.7. The operator at Birmingham Division Control Center observed train 192 entering the plant at Norris Junction onto Main 1 and contacted the train crew to stop. The 27L signal was not requested and should have been displaying a STOP. Train 192 ran by signal approximately 1,250 ft.</p> <p>Signal personnel investigated and took no exceptions of the signal system. Signal log reports at the Control Center and the field determined the 27L signal was not requested nor did it indicate lined.</p> <p>Further tests determined that the color light dwarf signal was subject to reflection from sunlight depending on the viewing location and position of the sun.</p> <p>Action was taken to replace the standard hood arrangement with 9 inch hoods that surround each colored lens and install phan screens to further direct sunlight reflection.</p>									
264	9/7/2000	NS	CTC			KCS6629	Wire	McConnell, AL	N
<p>Maintenance - Wiring Chewed by Rodents</p> <p>At 11:34 a.m. CST, train 339A7 reported that the south home signal (7RA) at McConnell, AL, MP 269.7, Alabama Division was at STOP and then upgraded to APPROACH with southbound train 21KA7 occupying the block ahead. Train 339 notified the dispatcher and train movements were protected. Signal personnel arrived on the scene and also observed the south signal (7RA) at McConnell was at APPROACH with train 339 occupying the block ahead.</p> <p>It was discovered through ground testing that the wire insulation in the south signal had been removed by rodents causing battery to energize the search light signal, resulting in the false signal.</p> <p>Wires were replaced and signal tested and placed back in service.</p>									
352	8/15/2002	CSXT	CTC			Q579-14	None - Phantom	S.E. Hurricane, Bay Minette, AL	N
<p>Phantom Signal - Due to Sun Angle</p> <p>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.</p>									

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404	8/26/2003	NS	APB			3285	Incorrect Wiring	Leighton, AL	N
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Human Error - Field Wiring Error, Inadequate Service Testing

On August 26, 2003 at 11:30 a.m. CDT, eastbound train A80 left Sheffield Yard on an APPROACH signal at MP 399.0A. Another eastbound train Q36 had left Sheffield Yard prior to A80. Train A80 reported the next automatic signal at MP 396.2A, Leighton, AL to be a CLEAR signal but suspected that train Q36 had not traveled far enough east to permit the signal to clear. In addition they had heard the Town Creek defect detector reporting the passing of train Q36, indicating that the train ahead had just passed the next signal location at MP 393.2A. Train crew of A80 notified the signal maintainer.

C&S personnel investigated and discovered the S-Code Electronic Track Circuit cabinet was improperly wired at the automatic signal location MP 396.2A. The wiring was corrected per the location signal plans and operational tests performed.

No. of Reports Shown in this Listing: **10**