



# IronWood Technologies

Railroad Accident Reconstruction

## Federal Railroad Administration

### False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - Cause: Phantom Signal - Due to Sun Angle

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

25	2/12/1995	NS		Remote		4144	Signal	Chicago, IL	N
----	-----------	----	--	--------	--	------	--------	-------------	---

At approximately 5:30PM, Train No. LC29 was prepared to head off the Pullman Branch eastbound through Pullman Junction. Signal 16RF was the governing signal for this move, and the crew reported they observed it displaying SLOW APPROACH (Yellow over Red for this dwarf signal). The engineer proceeded on this signal indication into the plant at Pullman Junction, but stopped the move when he and the conductor observed the power switches were lined against the move. The move was stopped short of any switch. After reporting the incident to the operator at Cummings, the train received permission to make a reverse movement on the Pullman Branch to where they cleared the "OS." The operator had stated that he had never lined the signal for LC29's move. Once they cleared the "OS," the crew still observed the same signal aspect displayed on 16RF. They got off the engine and shaded the signal and observed that the signal was displaying STOP (a single Red).

Signal personnel were called to investigate. On arrival, the signal was properly displaying a STOP indication, however the sun had begun to set and was not affecting the signal. Other operational tests were performed with no exceptions taken. The signal was taken out of service until the phantom signal situation could be investigated with proper sunlight conditions.

The following day a complete locking test was performed at Pullman Junction along with ground tests and applicable meggering and relay tests. Again, no exceptions were found. With sunny conditions available, sight tests were performed between 5:00 PM and 6:00 PM and the presence of a phantom aspect was confirmed. 16RF is a 2 position colorlight dwarf signal designed to display a STOP or RESTRICTING aspect (Yellow on top, Red on bottom). The sun was shining directly into the signal and made it appear to display Yellow over Red when only the red unit was energized. It took the installation of three (3) phankill devices to remove the phantom aspect. The signal was returned to service in that condition.

461	2/21/1995	SP	CTC			1ASROM1 17	Signal 2963R	West Belden, CO	N
-----	-----------	----	-----	--	--	------------	--------------	-----------------	---

On February 21, 1995 at approximately 12:25 PM, Engineer operating train no. 1ASROM1 17 traveling west, reported that they had a Flashing Yellow on signal 2921 and a Yellow on signal 2945 at East Belden, but found that the repeater signal 2963R at West Belden was dark. The crew was unable to stop the train and ran through the west switch at Belden which was lined reverse.

Under the direction of the Signal Engineer, the signal system was immediately removed from service for repairs to the power switch and thorough testing. Test showed that signal 2963 was dark due to a burnt out lamp, the 2963R was Flashing Red, the 2945 at East Belden was Yellow and the 2921 was Flashing Yellow. All tests showed the signal system to be working properly with the exception of the burnt out lamp. However, the next day we found that the sun was washing out the Flashing Red aspect on signal 2963R, so the lenses were replaced, the signal was realigned, and a sun shield (or sunhood) was installed to block the sun off the colorlight signal.

The signal system was returned to service on February 21, 1995 at 6:45 PM.

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
469	3/14/1995	ATSF	CTC			5156	None	Bandini, CA	N
<p>Approximately 8:45AM, March 14, 1995, crew on the M-BALA1-12 reported their train was sitting on North track waiting for eastbound train that was crossing over from North track to South track and observed the westbound control signal (4L) was changing from Red to Yellow and Red to White while the eastbound train was passing under the signal bridge where the (4L) signal is mounted. Signal Department was notified and made inspection and operational test of signal system in question. All signal tests concluded signal system operating properly. The signal supervisor interviewed the conductor on the M-BALA1-13 train, conductor stated the signal aspects appeared to be more like a reflection or phantom signal condition than a true signal aspect. As a temporary preventative measure the clear outer signal lense were removed from both westbound signals until non-reflective outer lenses are received from the supplier. This is being reported as a phantom signal incident.</p>									
512	8/28/1995	SP	CTC			SP 1SGSNC-27	Signal 6598A	East Gilluly, UT.	N
<p>On August 28, 1995 at approximately 7:25 AM, Engineeroperating train no. 1SGSNC-27 traveling east, reported that as they were heading towards the East End of Gilluly, signal 6598A was Red, but as they got closer, the signal looked Yellow. The train proceeded but found the switch lined against them.</p> <p>Under the direction of the Signal Supervisor, the signal system was inspected and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. The following morning, at the same time of day, the Signal Engineer and Signal Supervisor returned to the location for a visual inspection and observed that the early morning sun, shining on the signal, caused the Red aspect to look Yellow. A phankill unit was installed, and the problem was eliminated.</p> <p>The signal system was returned to service on August 28, 1995 at 2:00 PM.</p>									
49	9/25/1995	UP	CTC			UP3970	Signal Head	Kansas City, KS	N
<p>On Septmber 25, 1995, at 07:50 (CDT) on the Kansas City Terminal Subdivision, westbound KSSI-25 on Track No. 3 at Control Point K006 reported the westbound signal Red over Yellow for his movement from Track No. 3 to Track No. 2 and the switch was lined against him.</p> <p>An investigation revealed the sun reflections in the lower signal head diffused the Red signal and made it appear to give a Yellow indication.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
521	10/3/1995	SP	CTC			SP 1CPKIC-01	Signal 1EA	Pueblo Jct., CO	N
<p>On October 3, 1995 at approximately 5:23 PM, the 1CPKIC-01 moved eastward past signal 1EA with the switch lined reversed against him and left the switch out of correspondence with bent rods. When questioned later, the Engineer advised that he had been stopped at the signal for an opposing train, and after it cleared the switch, he saw the signal 1EA display a Red over Yellow and he proceeded without observing that the switch was lined against him. He stopped at the next signal 2EA until the dispatcher cleared it and then proceeded without realizing that he had damaged the switch by training through it.</p> <p>The Signal Supervisor repaired the switch machine and thoroughly tested the signal system. He found it working as intended. The Digicon system showed the switch reversed and the signal 1EA at STOP when the 1CPKIC-01 went by the signal.</p> <p>The Signal Supervisor observed the signal at the same time the next day and found that signal 1EA was washed out by the sun shining into it. He installed phankills on the eastward signals at this location.</p>									
20	12/7/1995	CSXT	CTC			Train R27205	None	Troy, OH	N
<p>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.</p>									
35	12/22/1995	NS	CTC			3920	Signal	Jacksonville, IL	N
<p>At approximately 12:58 PM, Train No. D33D westbound was waiting in the siding at Arnold to meet an eastbound train. Train D33D was stopped about four (4) car lengths east of the westward signal, 56L. After the eastbound train passed on the Main Track, the crew on D33D observed signal 56L display Yellow over Yellow, ADVANCE APPROACH, for their move. The engineer started his train moving out of the siding. Just before reaching the power switch, the engineer observed that it was lined against his movement, made a normal stop but ran through the switch with his entire train. The dispatcher had not requested a route for D33D to leave the siding.</p> <p>Signal 56L is a double mast bracket signal located to the right of the Main Track. Westbound movements on the main are governed by signal heads 56LA &amp; 56LB on the right mast; the siding by signal heads 56LD &amp; 56LE on the left mast. All heads are US&amp;S H-2 with 9 volts (AC or DC) on the bulbs, and only the D &amp; E heads (the siding signal) equipped with 30-degree deflecting lenses. A long sweeping right-hand curve is transversed approaching the west end of the siding. ADVANCE APPROACH is a valid signal to leave the siding.</p> <p>The false Yellow over Yellow was observed on the 56L E&amp;D heads by the investigating signal personnel. When compared to the Main Track signal Red over Red, the siding signal did appear Yellow over Yellow from an engine until it backed more than 150 feet back from the shunting joints. Tests revealed that this was a phantom signal, caused by sunlight reflecting off the snow covered ground in the early to mid-afternoon. Further experimentation showed where the removal of the deflecting lenses was the only sure way to prevent this phantom signal from occurring. The lenses were removed and the signals re-aligned to compensate. Signals were placed back in service.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
544	1/10/1996	SP	CTC			SP 1RVASM-08	Signal 6022	East Mounds, CO	N
<p>On January 10, 1996 at approximately 4:20 PM, train no. 1RVASM-08 traveling east, was in the siding at the east end of Mounds waiting for train no. 10ANSF to pass on the main. After the 10ANSF passed by signal 6022 on the main line, the Roadmaster noticed that signal 6022 appeared Green. The train crew on the 1RVASM-08 also reported that the signal appeared Green.</p> <p>Under the direction of the Signal Supervisor, the signal system was inspected and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. [The Signal Supervisor] returned the next day at about the same time to observe the signal and noted that as the sun started to shine on the green lens the signal appeared to be Green. Phankill screens were installed on all the eastbound signals at East Mound to correct the problem.</p> <p>The signal system was restored to service on January 10, 1996 at 11:00 PM.</p>									
101	1/24/1996	UP	CTC			None	None	Goodwin, TX	N
<p>On January 24, 1996, at approximately 1500 CST at the north end of Goodwin, Texas, on the Austin Subdivision, FRA Signal and Train Control Inspector observed the red aspect of the bottom head of the northward absolute signal fade from Red to Yellow.</p> <p>An investigation revealed that the lower head needed to be refocused; the lower head was refocused.</p>									
59	3/15/1996	BNSF	CTC			Train 05 014Y 14th	Signal 320.0	Saco, MT	N
<p>Train 05 014 14th was eastbound observed Flashing Yellow at signal 322.6. While approaching signal 320.0, he observed a yellow signal. Approximately five to ten cars from signal, signal appeared to be Green. They reduced speed, came up to control point and observed Red over Lunar. Train stopped on switch and notified dispatcher. System was tested and operated as intended. Bulb voltage was at eight volts. Due to time of day and low bulb voltage, it is believed sunlight reflected in green head and washed out weak Yellow signal. We observed signal at same time of day and believe a train crew would have to use their imagination to believe they saw a true Green signal. Phan kill was added to signal to cut down possibility of mistaking the Green aspect.</p>									
84	7/29/1996	CSXT	CTC			Q69629	L-Signal	Richardson Creek, Richardson Creek, SC	N
<p>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.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
575	11/4/1996	SP	AB			SP 1EYSCH-02	Signal 5706	Olmitz, CO	N
<p>On November 4, 1996 at approximately 4:00 PM, Engineer operating train no. 1EYSCH-02 traveling east, reported that signal 5706 was Green and signal 5692 at the west end of Olmitz was Red.</p> <p>The Signal Supervisor was called and arrived at the location within 15 minutes. He watched signal 5706 and observed that the sun was shining onto the signal head in such a way that the Yellow aspect could not be seen, while the Green aspect appeared lit. Phantom screens were installed on the signal head, and the batteries were replaced to increase the voltage on the signal lamp.</p> <p>The signal system was thoroughly tested; all tests showed the signal system to be working as intended with no exceptions.</p> <p>The signal system was returned to service on November 4, 1996 at 7:00 PM.</p>									
583	4/6/1997	CR		Remote		1681	Home Signal 8E	Wayne, Michigan	N
<p>Home signal 8E at Wayne Jct. Interlocking was passed in Red position by Engine 1681. Engineer and Conductor both stated that signal appeared to be displaying RESTRICTING. Investigation revealed that sunlight reflecting off of signal lens caused a Yellow aspect. Signal did have proper hood and lens configuration. Signal mechanism and lens were replaced with no noticeable improvement. Phankill was installed which improved situation. A different style of lens assembly was also installed. Signal was returned to service.</p>									
158	6/13/1997	UP	AB			UP1172	None	Crockett, CA	N
<p>On June 13, 1997, at 19:30 PDST, on the Cal-P line of the Martinez Subdivision, eastbound 2CROCKETT13 on track No. 2 observed a Yellow over Yellow at signal 284, the approach to CP A30, with the home signal at CP A30 Red.</p> <p>An investigation at the same time of day was made and revealed the bottom head of approach signal 284 was dark, but appeared to be illuminated Yellow from the rays of the sun.</p> <p>Antiphantom screens were installed to Signal 284 which prevented any further reflections being observed from the sun.</p>									
159	6/16/1997	UP		Manual		UP883	None	West Bridge Jct., LA	N
<p>On June 19, 1997, at 15:22 CDST, on the Alexandria Subdivision at West Bridge Jct., LA, southbound MLINO-16 observed a Yellow dwarf signal for movement from the Yard to UP Long Bridge with a power switch not lined for the movement.</p> <p>An investigation revealed the sun was shining in the signal and washed out the Red aspect.</p> <p>The lens was changed and the signal was adjusted so it would display a more plainly lit Red aspect.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
161	8/10/1997	UP	CTC		ATC	UP5071	None	Nelson, IL	N
<p>On August 10, 1997, at 17:45 CDST, on the Geneva Subdivision at Nelson, IL, eastbound worktrain WNEKCR, at mile post 105, while making a switching move from track 2 through track 3 and track 5 to the yard, ran by a dwarf signal that should have displayed a Red indication but the bulb was burnt out. The train crew claimed the dwarf signal displayed a lunar indication.</p> <p>An investigation revealed with the sun shining in the signal, it gave the appearance of a lunar indication.</p> <p>The dwarf signal is being changed out to a two position colorlight signal on a five foot mast.</p>									
121	9/12/1997	BNSF	CTC			UP LNJ5812	Alleged 2R Signal	Eton, MO	N
<p>Eastbound UPRR train LNJ5812 was stopped at Eton on south track at the 4R signal. An eastbound train on the north track was crossing over from north to south track. The engineer and conductor on the UPRR train stated that as the train on the adjacent track was going under the 2R signal on the north track that the signal was going from Red over Red to Red over Yellow. This occurred numerous times. This was not the signal for EB movement on the south track for the UPRR train.</p> <p>Due to a communication error between the dispatcher and signal controller, the wrong signal was investigated by field personnel. The signal team investigated the eastbound signal on the south track. They looked at the field logs, office logs and did a reenactment. The replay did show that the switch went out of correspondence momentarily, and a bad order 4TU timer were found. These two problems did not cause the signal to change aspect as reported but were found and repaired while testing. Another field investigation was accomplished on October 2 and 3, 1997. The proper signal was investigated with no exceptions.</p> <p>The outer 10 degree deflecting lens and phankill units were removed from all signals at this location on 9-17-97 to reduce this potential of sunlight being reflected into the signal.</p>									
205	4/23/1998	UP	CTC			UP 469W	None	Centertown, MO	N
<p>On April 23, 1998 at 10:10 CDT, on the Sedalia Subdivision at Centertown, Missouri, westbound WPFLWB21, while stopped in the siding 200 yards east of control point M142, observed a Yellow indication from the signal to leave the siding, with the switch lined normal.</p> <p>An investigation revealed a phantom indication in the signal to leave the siding was caused by the sunlight washing out the Red signal and making it appear Yellow.</p> <p>Shields were applied preventing the phantom signal, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
<b>208</b>	6/24/1998	UP	CTC		ACS	6201	None	Rawlins, WY	N
<p>On June 24, 1998 at 18:27 MST, on the Laramie Subdivision at MP 681.2, eastbound AMLKCX 22 reported the eastward signal from the South Runner to the #2 Main was Red over Yellow into a normal switch.</p> <p>An investigation revealed that the sunlight washed out the lower red aspect and it appeared to be a Yellow aspect.</p> <p>Phantom screens were installed, the signal system was restored to proper operation, and all applicable tests were performed.</p>									
<b>216</b>	9/10/1998	UP	AB			UP 5555	None	El Paso, TX	N
<p>On September 10, 1998 at 17:55 MDT, on the Valentine Subdivision at El Paso, TX, eastbound UP 5555 was lined from the House Track to the #2 Main Track at Mile Pole 826.5, and observed the eastbound signal was Green over Red with the #3 crossover lined against them.</p> <p>An investigation revealed the signal appeared to give a Green indication due to the reflection of the sun on the lens.</p> <p>A Phantom Screen was installed on the signal, and all applicable tests were performed.</p>									
<b>188</b>	9/28/1998	BNSF	CTC			BN 9497	None	Logan, WY	N
<p>Approximately 0745 MDT, BN 9497 with 0 loads 116 empties, train symbol EMEANA252, was stopped in approach of absolute westbound Main Track 3 signal 3W displaying Red/Red, at a distance of approximately 12 car lengths for approximately one hour. Conductor on ground giving a roll-by to an eastbound train on Main Track 2 was notified by Engineer at approximately 0845MDT that they had a PROCEED indication for westbound movement at 3W signal. Conductor boarded train and agreed that they had what appeared to be a Red/Yellow signal. Train proceeded westbound to a distance of approximately 7 car lengths from 3W signal, and observed a Red/Red. Crew notified dispatcher, and Signal Supervisor, Maintainer and Inspector were called at 0855 MDT. Crew statements were obtained, and dispatcher held train traffic to allow for signal tests. Signal Supervisor observed 3W signal from BN 9497 at a distance of 7 car lengths and observed a Red/Yellow/Red aspect. VHLC logs from control point Crossovers 72.5 were downloaded. Logs show that 3W absolute control signal had not been requested by the dispatcher and that 3W signal displayed Red/Red while the BN 9497 westbound was in approach to 3W. Office logs at Fort Worth indicate that the 3W signal had not been requested by the Dispatcher. Operational tests performed on signal system with no exceptions taken. 3W signal is a two unit colorlight with green, yellow, red lens in the top unit and green, yellow, red lens in the bottom unit. No exceptions taken with condition of the top or lower unit internal and external lens assemblies. Both units were equipped with snow shields. Lamp voltages were tested with no exceptions. Signal Supervisor reenacted incident in the same position in which the crew observed signal 3W and could distinguish a Yellow aspect in the lower unit caused by sunlight reflection from approximately 0815 until 0835 MDT.</p> <p>Corrective action: Individual visors were installed on green, yellow, and red light units on top and bottom colorlight units. Signal was observed at approximately 0834 MDT on September 29, 1998 with overcast sky conditions, and with sun in same position on subsequent days and no exceptions were noted. Phankill screens will be installed and evaluated to determine their effect as deterrent against external light sources and reflections.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
620	9/20/1999	CN		Automatic		N/A	Home Signal	Waltonville, Illinois	N
<p>Phantom signal created by sunlight on Green aspect of CN/IC home signal. Red lamp also burned out. Installation of snow shields and improving site distance for correction.</p>									
269	1/11/2000	UP		CTC		AMTK-53	None	Bond, CO	N
<p>On January 11, 2000 at 14:13 MST, in Bond, CO on the Glenwood Springs Subdivision at MP 156.00, eastbound Amtrak 53 on the main track lined for the siding, reported the eastbound signal was Red over Yellow into the siding with the switch reversed into track and time.</p> <p>An investigation revealed a phantom signal in the bottom head caused it to appear Yellow.</p> <p>The lens was changed in the bottom head, it was refocused, and the background was painted flat black. The signal system was restored to proper operation, and all applicable tests were performed.</p>									
255	2/16/2000	NS		CTC		5469-5460	Phantom Signal	Cleveland, OH	N
<p>At approximately 12:30 PM, Train No. 133 observed the 5WA signal at CP 190, Rockport Yard, displaying a SLOW APPROACH aspect. The dispatcher did not have the signal lined and the train was stopped as it took the signal. No other trains were involved.</p> <p>Signal personnel arrived to investigate and first interviewed the train crew. The crew reported the signal they saw from about 150 feet had looked to be Yellow over Red. 5WA is a US&amp;S dwarf signal consisting of four (4) light units each with an 18 watt bulb. The top unit is red, the second green, the third yellow and the fourth is a red unit. Initial inspection of the signal found it to be in excellent condition with no cracked or discolored lenses, no missing hoods. The signal was properly sealed, locked and aligned. The lighting voltage on the individual units, when lit, measured between 8.4 and 8.6 volts DC. The train was then backed to the point where the crew thought they saw the Yellow over Red. With the top and bottom red units lit, a STOP signal, the top red appeared to be washed out to the point that it could have been misinterpreted as a yellow. A contributing factor was the train crew's relative unfamiliarity with this location.</p> <p>All appropriate signal tests were performed with no exceptions taken.</p> <p>As the sun was above and slightly behind the 5WA signal, it was suspected that the sun reflecting back off the second hood could have caused the top unit, displaying red, to wash out somewhat. The signal bulbs were replaced with 20 watt bulbs, and the voltage was increased to 9.2 volts before returning the signal to service.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
<b>270</b>	2/28/2000	UP	CTC			UP4808	None	Indio, CA	N
<p>On February 28, 2000 at 10:22 PST, at Indio, CA on the Yuma Subdivision at MP 606.34, eastbound WBEBET-28 on the main track reported the eastbound signal at Myoma West displayed Yellow over Yellow aspect when lined for the siding.</p> <p>An investigation revealed the lens in the top head was dirty, misaligned and the Red signal appeared Yellow.</p> <p>The lens was changed and the signal head was refocused. The signal system was restored to proper operation, and all applicable tests were performed.</p>									
<b>256</b>	3/4/2000	NS	CTC			6681	Dwarf Signal	Norris Jct., AL	N
<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>									

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

226	5/5/2000	BNSF		Remote		BN7269/MLAUNTW	None	West Fargo, ND	N
-----	----------	------	--	--------	--	----------------	------	----------------	---

Engine number BNSF 7269 was given permission and a signal from the West Fargo Interlocking up to JY Jct. The dispatcher said they would not get a signal at JY Jct. because there was a switch engine switching at Fargo Yard Office. The dispatcher would talk the train by the signal at JY Jct. When the train got there, they stated that they saw a Red signal. When they were about twenty car lengths from the signal the crew indicated that the signal appeared Yellow. At that point, they called the dispatcher to get permission to take the signal. The dispatcher said he had not called for a signal at JY Jct. and his computer showed JY Jct. at STOP. The dispatcher then talked the train past the signal at JY Jct.

The field HLC log and the Fort Worth office logs had the same information for JY Jct. (i.e. no signal was called and the signals were red). JY Jct. is equipped with searchlight signals and the HLC monitors the red repeater relay, which had not dropped.

The Signal Inspector and Signal Technician tested the relays, the signal mechanism, voltage at the bulb, which was 10.4 volts, and megged the cable to the signal. No exceptions were taken with any of the tests.

The Signal Supervisor rode an engine with the conductor and brakeman on the following day, May 6, at 14:45 hrs. to recreate the incident. It was a cloudy day and the signal displayed aspects as was intended. The supervisor dropped flags at the location where the crew saw the red signal and where the train stopped and the crew said the signal was yellow. The day the incident occurred it was a clear sunny day. In order to recreate the conditions the locations when the signal was seen to be Red and Yellow were marked for future testing.

On May 7, at 14:45 hrs. the Inspector and Maintainer again observed the signal. It was partly cloudy. It appeared to these employees that the signal was Red and may have appeared Yellow at the closer in point to the curve.

The corrective action taken will be to turn the searchlight head slightly to the west and install a phankill lens.

227	5/6/2000	BNSF	CTC			Z-WSPSBD-104	Westbound Signal Main Track Two	Barstow, CA	N
-----	----------	------	-----	--	--	--------------	---------------------------------	-------------	---

At 0755 hours Pacific Time train crew reports that they were stopped on Red over Red signal at station Barstow. Train was approximately 500 feet to 1000 feet from the signal. Train crew said they saw signal go to Red over Yellow and they proceeded to take signal. When train was one engine length from signal train crew observed signal was Red over Red but could not stop train from entering OS. Field logs and Digicon logs do not show signal ever being cleared or requested to clear. Could not duplicate event in field. This signal is in direct line of rising sun but at 0845 hours I (Signal Supervisor) arrived on scene and looked at signal on main track two and noticed some sun glare on signals but not excessive. Terminal Superintendent and myself (Signal Supervisor) have arranged to ride train at same of morning on May 7th, 2000.

On morning of May 7th, 2000, we reenacted event and observed that indeed at this time of morning sun was directly reflecting on the red lens. The glare was bad enough to make the signal appear to be Yellow.

Correction: Added hood over red aspect to reduce the potential of sun interference.

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
234	11/7/2000	BNSF	CTC			H MOD SEL 907	CL	West Seligman, AZ	N
<p>On 11-7-00 at 15:42 the HMODSEL907 eastbound on M2 approaching West Seligman (2E signal) reported a Yellow over Green aspect as they approached the signal for about 1 minute, the signal then appeared to go to Yellow over Red. The N.O.C. log showed the signals lined M2 to M2 West Seligman and M2 to M2 East Seligman. We were notified and ran VHLC logs at West Seligman, main and remote houses, and the approach signal 4324. The logs showed at no time did the 2EBG indicate true at West Seligman during this time. Signal 4324 was Flashing Yellow over Red. Grounds test was performed and was negative. I interviewed the crew at 21:30 over the phone and they indicated it may have been sun related (sun was setting into signal at that time). On 11-8-00 I had Signal Inspector in place to watch the signal from 14:00 to 17:00 and I rode an eastbound train from Kingman to Seligman trying to get to West Seligman at about 15:42. I arrived at Seligman about 17:00 and missed the sun but Signal Inspector Mitchell was able to watch the signal and did notice the sun washing the Red out and the Green was visible. Upon looking at the 2EB signal we found that some of the brackets for bolting the background to the signal head were broken and allowing the wind to blow the background away from the signal and sun could enter the lens area from the side. We replace the 2EB signal head and performed the proper tests. We also ran the VHLC log again and performed a gorunds test, alignment and voltage check on the 2EA and 2EB signals.</p>									
252	11/27/2000	CSXT	CTC			Q67425	Phantom	SF-269, Pee Dee, SC	N
<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>									
310	1/4/2001	NS	CTC			P42P3	Phantom Signal	Thicketty, NC	N
<p>At approximately 5:04 p.m. on 1/4/01, train P42P3 running northbound reported a signal problem with the 4354 northbound intermediate signal at MP 435.4. Train P42P3 was northbound on track two returning to a cut of 15 cars it had left on track two north of the 4354 intermediate signal. Upon approaching the 4354 signal northbound, the crew first observed a RESTRICTING Red over Red aspect. As they got closer to the signal, it appeared to them as an APPROACH, Yellow over Red aspect. The engineer called the dispatcher and reported that he thought there were signal problems at the location. The dispatcher called signal personnel to investigate. Investigation revealed no exceptions with signal circuits, grounds or relay operation. However, it was determined that the sun was shining directly into the signals at the time of the incident and the situation would be reenacted at 5:00 p.m. on 1/5/01, as a phantom aspect was suspected.</p> <p>Conditions were almost identical to the previous day during the reconstruction. The same crew and train P42P3 were used, with signal officers on board to observe the signals. At a distance the RESTRICTING aspect was visible on signal 4354. When the train got within 600' of the signal, an APPROACH aspect could be distinguished and the top head green lens appeared dimly lit on signal 4354.</p> <p>It was observed that the signal was affected by the sun's glare, and the top head appeared to have all three units (green, yellow, and red) burning dim and of equal intensity. Such an aspect would have been interpreted as an improperly displayed signal, rather than an APPROACH. However, the possibility of an APPROACH aspect could not be discounted.</p> <p>Adjustments were made to make the signal aspects easier to discern in the afternoon sun. This involved bulb voltage adjustments, sighting alignment and installing long signal hood covers.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
301	2/6/2001	CSXT	CTC			Q453-06	Phantom Aspect	10 Signal So. Wye, Waycross, GA	N
<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 &amp; 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>									
303	3/10/2001	CSXT	CTC			V829-10	Phantom Aspect	D Tower, Grafton, WV	N
<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>									
304	3/11/2001	CSXT	CTC			N773-05	Phantom Aspect	North Acca, Richmond, VA	N
<p>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.</p>									
290	4/11/2001	BNSF	CTC			Train YEMP2011-1	Phantom Aspect Signal	Emporia, Kansas	N
<p>Train crew on 3-11-2001 stated that signal 20 RB was Yellow when they proceeded by it eastbound at NR Junction. All dispatcher and field logs show the signal to be Red, switches lined against move, no request ever received. No exceptions taken to all signal testing in field. The operational opinion is that a crew expecting a Yellow aspect might misconstrue the Red aspect to be Yellow at this time of day at this time of year. Signal voltage was at standard prescribed, but a outer lens was changed that did improve visual perception.</p>									
668	6/5/2001	DH		Remote		Train #SCR	Eastward Home Signal CPF467	Mechanicsville, NY	N
<p>The Springfield Terminal Dispatcher had called train #SCR to see why they had proceeded through the control point at CPF467. The Dispatcher did not have a signal cleared at this location. At this time train SCR had reported that they had an APPROACH signal at CPF467. The signal at CPF467 was out of focus due to a broken bracket that held the signal housing. With the signal out of focus and the position of the sun shining on the signal had caused the signal to appear Yellow. The signal bracket was replaced and the signal was refocused. The signal was rechecked under the same condition and the signal displayed the proper aspects.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
<a href="#">326</a>	6/11/2001	UP	CTC			UP3035	None	Council Bluffs, IA	N
<p>On June 11, 2001 at 15:30 CDT, at Council Bluffs, Iowa on the Omaha Subdivision, westbound UP 3035 on Track 2 at CPB 001 reported the Dwarf Signal #20 gave a Red over Lunar aspect.</p> <p>An investigation revealed the lower unit of the dwarf signal had a burned out bulb, and was dark on red. The sun wash into the lenses gave it the appearance of a lunar aspect.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
<a href="#">681</a>	11/1/2001	MRL	CTC				Phantom Aspect	Helena, MT	N
<p>See attached [nothing attached].</p>									
<a href="#">347</a>	2/27/2002	CSXT	CTC			R27627	None: Phantom	NAS Contentnea #2 Tr., Contentnea, NC	N
<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>									
<a href="#">349</a>	5/5/2002	CSXT	CTC			Q68905	None - Phantom	N.E. Osierfield, Osierfield, GA	N
<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>									
<a href="#">350</a>	5/17/2002	CSXT	CTC			Q69617	None - Phantom	Monroe, NC	N
<p>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.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
<a href="#">696</a>	6/18/2002	CP		Remote		CSXT 7911	CL	Portage, WI	N
<p>After changing the outer clear plastic lens to a glass outer clear lens, the signal maintainer failed to secure the lunar CL head. Train 614 (CSXT 7911) was on the siding at Portage Jct. The train was about 10 cars west of 2EA signal when they observed what they thought to be a DIVERGING CLEAR aspect. Train 614 passed the signal and stopped short of a power switch lined against them.</p> <p>We are reviewing FRA Rule 236.3 (locking of signal apparatus housings) with all concerned.</p>									
<a href="#">352</a>	8/15/2002	CSXT	CTC			Q579-14	None - Phantom	S.E. Hurricane, Bay Minette, AL	N
<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>									
<a href="#">353</a>	8/30/2002	CSXT	CTC				None - Phantom	S.E. Gorman, Gorman, TN	N
<p>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.</p>									
<a href="#">708</a>	3/5/2003	CN	CTC			343	Signal 2WA-CL	IKE north - Ray, MN	N
<p>NB train 343 was in the siding preparing to proceed NB on a CLEAR signal indication. Temperature was -30degF bright sunny. Signal maintainer was on site working on switch trouble due to frost on switch contacts. At approx. 11:11 train crew reported to signalman that they observed an APPROACH aspect on the main line signal (2WA). At the time they had a CLEAR on signal 2WB.</p> <p>Signal maintainer bagen tests and could not simulate or replicate. No defects were found. Signal supervisor downloaded recorder. Data showed signal 2WA never lined at the time signal 2WB was up. Signal system returned to service when all tests were complete.</p> <p>Train crew later reported in written statement that the lens color of 2WA changed from Amber to Red when they were within 1-2 car lengths. Train crew also reports frost on the signal lenses.</p> <p>Cause appears to be a phantom aspect due to angle of sun on signal lens with heavy frost. Frost was removed from signal.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
378	4/8/2003	BNSF	CTC			B-RICWAT5-06A	None	Fullerton Jct., MP 45.0, Fullerton, CA	N
<p>Train B-RICWAT5-06A, traveling westbound on Main Two MP 165 Fullerton Jct. on the San Bernardino Sub, signals on Main 2 at Atwood for the 4WA signal was Flashing Yellow over Red MP 40.3 and intermediate signal 433 was Yellow over Red on Main Two and at Fullerton Jct. 4WA signal on Main 2 was Red over Red. San Bernardino dispatcher reports ticket # 860065 Fullerton Jct., switch from Main 2 to Main 1 Metro-Link was run through by the B-RICWAT5-06A MP 165 Fullerton. All logs were captured at all three locations. Show signals were F/Y over Red Atwood MP 40.3 and Yellow over Red at the intermediate signal 433 and Red over Red at Fullerton Jct. Reenactment was conducted with Trainmaster and Road Foreman of Engines. After all tests were conducted, found signal system working as intended. Replace repairs were made to No#3 switch at Fullerton Jct., replace lock rods, throw rod, and point detector rod. Reenactment was also done the following morning at same time which revealed sun reflecting on signal from 1250 ft. approaching signal until about 950 ft. Long hoods were placed over all westbound signals which eliminated sun reflection.</p>									
414	4/23/2003	UP	CTC			UPY562	None	Salt Lake City, UT	N
<p>On April 23, 2003 at 10:25 CDT, in Salt Lake City, UT on the Lynndyl Subdivision, westbound YSC44 22, at mile post 782.40, reported the westbound signal on No. 1 track was Red over Lunar without the signal being requested from the dispatcher.</p> <p>An investigation revealed the sun reflecting off the outer lens of the bottom red aspect gave the appearance of a lunar.</p> <p>The outer lens was replaced, and all applicable tests were performed.</p>									
389	5/13/2003	BNSF	CTC			S-BPATAC1-10M	Phantom Aspect	East Wishram, WA	N
<p>The train crew of S-BPATAC1-10M was headed westbound on the Fallbridge Subdivision toward East Wishram and observed a Yellow/Red at the approach signal 110.1, and proceeded prepared to stop at East Wishram. At approximately 11:50 on 11/13/03 the train got out of the tunnel at M.P. 108.1, they could see the bottom head was Red, but the top head looked dark at East Wishram. Just before they got to the milepost sign at 108, both crew members said that it looked like the top head was Green. They kept looking at the signal, and at M.P. 107.9, they realized that the top head was Red and stopped about 500 feet before getting to the signal. The signal is a color light signal located at M.P. 107.7. Event recorder at the dispatcher's office showed no signal was called at this location, and the recorder in the field showed no signals lined at that time. The signal maintainer opened the circuits to the green and yellow bulbs until testing could be completed. The trainmaster rode the next train through, and said the signal looked dark, but it did have a green "hue."</p> <p>Field testing showed no defects to signal equipment inside the bungalow, but the top head of the signal was not aligned the same as the bottom head, and the bulb voltage was about 0.5 volt low in both the top and bottom heads. The bulb voltage was raised to 9.4 volts and the top head was aligned the same as the bottom head. The next train crew said the signals looked good to them.</p> <p>Signal trouble ticket #937845.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
<b>394</b>	7/2/2003	CSXT	CTC			Q208-02	None: Phantom	South Latonia, Kenton, KY	N
<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>									
<b>420</b>	7/2/2003	UP	CTC			UP 3382	None	Salt Lake City, UT	N
<p>On July 02, 2003 at 22:15 CDT, in Salt Lake City, UT on the Lynndyl Subdivision, eastbound UGDEO, on the side track at MP 779.10, reported the eastbound signal #12 in the siding was Yellow over Red, and there was no signal requested and the switch was lined normal.</p> <p>An investigation revealed the outer magnifying lens of the top signal head was not properly sealed to the inner lens, and the angle of the sun caused the Red indication to appear Yellow/Orange.</p> <p>The lenses were cleaned, resealed, and all applicable tests were performed.</p>									
<b>717</b>	9/15/2003	CN				NS 278	21L Signal	Gilman, IL	N
<p>NS278 crew reported at approximately 1840 during sunset that 21L signal B head was Yellow. NS crew was on the Gilman Sub at 23L signal going to the Chicago Sub. A southbound IC M34241 was also going across the interlocking on the main. The dispatcher questioned the crew if it was the sun but they said it wasn't. The dispatcher told the Maintainer that 21L signal was not called for.</p> <p>The maintainer, supervisor and inspector meggered the signal cables and tested for grounds. The relays were also tested. The interlocker was placed in remote control to do a reenactment and test the signal. The approach to 23L signal was shunted and remained shunted during the suration of the tests, because this is where the NS train was located. 1R and 13R signals were lined and 18T was shunted north then south of the diamond, 21L signal remained Red. We also shunted 21RT and lined 21L signal to verify the call on (B head Yellow) and got the signal indication. 21L signal was cleared and shunted 18T, 21L signal went to Red. Gilman Interlocker Harmon Logic Controller was downloaded. We verified that 21L signal was not called for or true.</p> <p>The next evening during sunset the supervisor and maintainer went and inspected the signal. The weather conditions were similar to the day before. It appeared to be lit. We climbed up the signal mast and opened up the door and verified the bulb was not lit. Within 30 minutes it no longer appeared to look lit. A light diffuser was ordered for this signal to remedy the problem.</p>									

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

<b>387</b>	9/30/2003	BNSF	CTC			L-NWE823130	CL	Everett, Washington	N
------------	-----------	------	-----	--	--	-------------	----	---------------------	---

At approximately 16:05 PDT on 10-30-03, train L-NWE823130 while traveling north on main 2 ran by a red signal displaying Red over Red at Everett Jct. The train was traveling in reverse with a caboose in the lead. The crew thought they saw a Yellow over Yellow signal and found the switch lined against them in the OS section of Everett Jct. The train stopped before they ran through the switch.

The signal team was notified and all logs were downloaded and revealed that the signal was Red over Red when the train entered the OS section at Everett Jct. Further investigation by the signal team revealed lamp voltage was lower than standard by about a 1/2 volt. They also found that the signal alignment was poor. The following day, 10/1/03, the signal team along with the operating team recreated the incident at the same time of day with the same conditions. Lamp voltage was reduced to the levels of the previous day and the train proceeded north. They viewed the signal as they proceeded north taking pictures along the way. Although the pictures clearly show the signals being Red, they thought they could see a phantom aspect of Yellow over Yellow. The weather conditions were bright afternoon sun.

The repairs were that the signal was re-aligned and lamp voltages raised to BNSF standard.

<b>398</b>	11/25/2003	CSXT	CTC			Z16025	None: Phantom	Hopple Street, Cincinnati, OH	N
------------	------------	------	-----	--	--	--------	---------------	-------------------------------	---

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.

No. of Reports Shown in this Listing: **54**