Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
464	3/2/1995	AMTK		Remote		3837	Signal 10R	San Francisco, CA	N

Human Error - Signal Circuit Design Error, Inadequate Service-Testing

On March 2, 1995 the C&S Department in San Jose, CA was notified of a non conforming signal on the 10R signal at Portrero Interlocking in San Francisco, CA. The report stated that the engineman of Southern Pacific 3837 received a Yellow over Dark (APPROACH) in lieu of a Red over Green (DIVERGING CLEAR) when he made a diverging move over number eleven switch reverse at Portrero Interlocking. Investigation revealed that the original 1959 signal design by Southern Pacific allowed movement against current of traffic on number one track without checking the position of the switches permitting movement against current of traffic. This permitted an APPROACH aspect to be displayed with number eleven switch reverse in lieu of a diverging signal. The circuit has been disabled pending redesign, and all aspects have been checked and the signal system now functions properly.

555	3/19/1996	AMTK		Remote		268	Cab Signals	Cranston, RI	N

Failed Equipment or Device - Cab Signals

Train 177 with Eng 268 traveling west track two was lined to cross from track two to track one at Cranston Int. The 2W home signal was reported to display a MEDIUM CLEAR, and as the train (177) proceeded into the interlocking, the cab signal displayed APPROACH MEDIUM. As train 177 proceeded over the crossover to track one, the enginemen on train 177 reported his cab signal upgraded to CAB SPEED. As a result of this report, Amtrak removed CAB SPEED cab signal from service on all engines operating between New Haven and Boston, and replaced the 100 Hz inverter used to produce 100 Hz for cab signals for westbound moves at Cranston. The inverter was suspected of drifting off frequency. On March 27, 1996, Amtrak re-enacted the two to one move at Cranston Int. using a test Eng 227 with CAB SPEED cab signal aspect cut in. We also re-installed the suspected defective 100 Hz inverter for this test. It was our determination from the test that the 100 Hz inverter had drifted to 89 Hz, and as this inverter is a square wave generator, there was also a significant level of the third harmonic, 267 Hz present in the same wave form. This equipment was tuned to receive 120 code at the 91-100 Hz frequency as well as the 250 Hz frequency and there were sufficient levels of both carriers to support the CAB SPEED aspect at the 120 code rate. The "Fifth Aspect" on-board equipment supporting the CAB SPEED cab aspects remains out of service as of this date and is being re-evaluated. This interim "Five Aspect" on-board equipment does not perform a final "alternating carrier" check as does the full Nine-Aspect cab signal equipment does. We will advise you of our corrective action and our intent to re-establish the interim CAB SPEED cab signal aspect to service.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
564	7/11/1996	AMTK			ACS	Engine 929	Track Code	East of Harrison, NJ	N

Human Error - Signal Circuit Design Error, Inadequate Service-Testing

On July 11, 1996, train no. 179, Engine 929, reported just prior to midnight that after passing signal W63 displaying APPROACH (cab signal conformed) and after the normal code change to RESTRICTING, the cab signal changed to APPROACH MEDIUM several times while approaching s STOP signal at "Swift." Testing was performed following this report as explained in our letter of July 26, 1996, attached. On July 27, 1996, three trains, Engines 925, 912 & 923, each reported a similar condition at the same location. Subsequent tests and conclusions are fully explained in our letter of August 8, 1996, attached.

[Text of Letter of August 8, 1996]

Mr. David R. Meyers
Administrator, FRA
Scott Plaza Two - Suite 550
Philadelphia, PA 19113

Dear Mr. Meyers:

On Saturday, July 27, 1996, at 8:09 AM, a report was made to New York Central Control by train 205, engine 925, that cab signals were flipping from RESTRICTING to APPROACH MEDIUM and back to RESTRICTING, while approaching the 3W signal at Swift Interlocking in the STOP position. At 9:18 AM, train 195 with engine 912, reported experiencing the same irregularity in cab signals. Train 204 with engine 923 was instructed to report waysides and cab signals while approaching the 3W signal at Swift Interlocking in the STOP position. He reported all proper, until approaching this signal, where his cab signals started bouncing between APPROACH MEDIUM and RESTRICTING.

This was the second occurrence involving this same scenario in which cab signals went up to APPROACH MEDIUM while the 3W signal at Swift was at STOP. Please find attached, the July 26, 1996 copy of our letter concerning the first incident on July 11, 1996. All tests performed at that time disclosed no irregularities.

C&S personnel arrived on the scene on July 27, while the cab signals were in the failure mode as described by the Engineers of the above-stated trains. Investigation revealed that intermittent removal of steady energy at the W70 signal location from the 2E1 track circuit was caused by the existing circuit design. This produced pulses from W70, eastward, when the code change went into effect on the approach of a train. These pulses were accepted by the locomotive cab signal equipment on the above stated trains in a manner that caused cycling between APPROACH MEDIUM and RESTRICTING cab signals.

C&S management and supervision became involved and determined, by performing a revision of the track circuit design, that these unwanted pulses could be eliminated. This revision was performed on the morning of July 27, 1996.

A re-enactment was scheduled and held in the early morning of August 6, in which the 929 AEM7 locomotive was used to re-create the code failure when the track circuitry was restored to its original design. Amtrak management and C&S employees, along with FRA representatives were on hand. It was proven that the intermittent track circuit pulse produced the cab signal irregularities. Chart recorders were used to get records of what was occurring in this situation. The 929 was downloaded and the tape will be part of this occurrence file. The circuitry was restored to the revision approved network and put back in normal

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

service.

During the re-enactment, the false display of the APPROACH MEDIUM aspect was clearly demonstrated to be only momentary, of approximately one-half second duration, and recurring at a cyclic rate with the display of RESTRICTING for a minimum of two seconds between each one-half second pick-up of the APPROACH MEDIUM. While this condition severely undermined our engineer's confidence in the cab signal system, and is therefore highly undesirable, it did not constitute a dangerous condition such that any engineer would actually accept the momentary false display and try to exceed restricted speed, nor would he have been able to exceed 20 mph, as the speed control continued to limit his speed.

Due to the nature of this condition, there has been some confusion as to whether an actual false proceed report should be filed. However, since the one-half second display was just barely long enough to require an acknowledgment, I am attaching a false proceed report on the prescribed form. Please consider this as a follow-up to our original letter of July 26, 1996, which was filed within fifteen days of the initial occurrence.

If we can be of any assistance concerning any files or records involved with the above, please contact my office at 215-349-1028.

Sincerely,

Assistant Chief Engineer C&S

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
572	10/21/1996	AMTK	CTC			Control Car #1519	180 Decoding Unit	Dorchester Branch, Boston, MA	N
			Failed Equipment or Device - Cab Signals						

On Monday, October 21, 1996 at 1:15 p.m., the engineer of MBTA Commuter Train #042 reported holding a CLEAR cab signal after passing signal 225.8 2E displaying an APPROACH aspect (Yellow over Red) while operating #2 track eastbound on the Dorchester Branch. Train #042 had cab car #1519 on the lead with four coaches and engine #1053 pushing the consist. The Dorchester Branch is reverse traffic signaling with 100 Hz Phase Selective circuits.

Amtrak C&S management was notified and dispatched to the scene with signal maintainers and test personnel. Tests revealed during the investigation that the 180 decoding unit located at cut section 226.8 (which is also signal location 226.8 2W for westbounds) was permitting the 75 code feeding westward to that location to create an output sufficient enough to energize the DR relay. This would then allow 180 code to be applied to the rails improperly and feed westward to generate CLEAR cab signals.

Correction was made by replacing the 180 decoding unit and all operational tests performed afterwards showed all circuits 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						
574	11/1/1996	AMTK		Manual			52R Signal	21st St. Int., Chicago, IL	N
			Human Error - Field Wiring Error, Inadequate Service Testing						
			On Friday, November 1, 1996, Amtrak's Signal Engineer received a report at approximately 7:30 a.m. that train crews were observing the 52R signal, at 21st Street Interlocking in the Chicago Terminal area, display a SLOW CLEAR aspect when the 4R signal at CP Cermak belonging to the Illinois Central system was lit at STOP. Under normal conditions the 52R will display a SLOW APPROACH to the 4R in the STOP position. Investigation of this report by Amtrak's Signal Engineer revealed that 15 VDC energy was being incorrectly fed from CP Cermak to the 52R control circuit at 21st Street Interlocking when the 4R signal was in the STOP position. The 52R control circuit was immediately opened so as not to allow unwanted foreign energy into the circuit. Amtrak and Illinois Central signal management met and found that at the signal bungalow for CP Cermak, incorrect wiring had occurred by Illinois Central personnel after that location had been tested due to a recent signal cutover. Although the false clear aspect was on Amtrak's 52R signal at 21st Street Interlocking the cause for that failure was due to improper wiring of the Illinois Central signal network.				
585	8/14/1997	AMTK		Manual		None	Signal 42L	North Philadelphia, PA	N
			Failed Equipment or Device - Aerial or Underground Cable, Shorted or Grounded (not due to vandalism or digging)						
			At North Philadelphia Interlocking on the NEC in Philadelphia, PA. The tower operator reported a problem with the 42L signal. The C&S forces found the 42L displaying an APPROACH aspect with a train occupying the block. Investigation finds cable conductor 42LAH5 not meeting insulation resistance standards allowing foreign current to energize the 42LAH relay. The circuit was rerouted to good conductors. All appropriate tests were made along with a complete operation check observing all aspects with no exceptions found. Signal was restored to service.						
590	12/2/1997	AMTK	AB			101	3BSA Relay	Phila., PA	N
			Human Error - Field Wiring Error, Inadequate Service Testing						
			Amtrak train no. 653 engine no. 101 traveling west on no. 3 track passed auto signal mo. 69. Auto signal 69 on no. 3 track was observed displaying APPROACH with the block occupied. C&S forces investigating found the "3BSA" relay not wired properly. The relay was replaced. All appropriate tests were made along with a complete operational check. Signal 69 was returned to service with no exceptions. Disciplinary actions have been initiated to prevent any reoccurrence.						

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
596	3/11/1998	AMTK		Remote		NA	63R	West Cambridge, MA	N
			Human Error - Signal Circuit Design Error, Inadequate Service-Testing						
			Mr. James Hoffnagle of the FRA reported to [redacted] Assistant Division Engineer C&S MBTA for Amtrak, that signal 63R at West Cambridge Interlocking displayed APPROACH MEDIUM with a route displayed over #52 crossover which is a #15. It was determined that circuit design of the 63R would allow APPROACH MEDIUM aspect to be displayed thru the #52 crossover reverse. Circuitry was redesigned, operational tests made and no exceptions taken.						
605	8/5/1998	AMTK		Remote		941	Signal 971-3, Charles Interlocking, Signal	Baltimore, MD	N
			Human Error - Signal Circuit Design Error, Inadequate Service-Testing						
			Engineer on train 105 reported that signal 7SB displayed STOP, due to #89 switch out of correspondence. Dispatcher gave the engineer permission by the 7SB signal with Rule 241. The engineer reported that after passing 7SB signal the cab signal aspect indicated CLEAR. Signal 971-3 displayed STOP AND PROCEED with CLEAR cab aspect displayed in engine. After investigation, it was determined that the 3 HGR did not check the cab signal network, therefore, allowing CLEAR cab rather than RESTRICTING cab to be displayed. Circuit changes made, circuitry tested, and signal system returned to service.						
606	10/12/1998	AMTK		CTC		316	Signal 884-1 CS 89.2	Guilford, CT	N
			Human Error - Field Wiring Error, Inadequate Service Testing						
			Engineer on train 12 reported signal 884-1 displayed CLEAR aspect and CLEAR cab instead of cab speed. Also, CS 89.2 displayed CLEAR cab instead of cab speed with signal 1E at Guilford displaying cab speed. Upon investigation it was determined that peripheral boards of Micro Lok Plus for track #1 and track #2 at Loc. A at Guilford Interlocking were swapped which allowed wrong code to be sent to signal 884-1 and CS 89.2. Investigation is being conducted to determine responsibility.						
610	11/20/1998	AMTK				MARC #532, Eng. 4	3N Signal, Charles	Baltimore, MD	N
			Human Error - Signal Circuit Design Error, Inadequate Service-Testing						
			Engineer on northbound MARC local reported that signal 3W at Charles displayed MEDIUM APPROACH with cab signal displaying APPROACH MEDIUM rather than APPROACH. Upon investigation it was found that due to a circuit design error, the speed selection network was omitted thru the new switch #66. Circuit was revised by breaking the speed selection network thru the #66 correspondence relays. Circuit was tested and 3N signal returned to service.						
618	7/22/1999	AMTK		Remote		Train #418, Eng. 49	Charles Int., Signal 2N	Baltimore, MD	N
			Human Error - Signal Circuit Design Error, Inadequate Service-Testing						
			Engineer on train #418 reported that signal 2N at Charles Interlocking displayed APPROACH SLOW aspect with 4N signal at Paul displaying STOP aspect. Investigation revealed that a circuit design error existed in the 2NHRYPR circuit. Revision of the circuit was accomplished by breaking the 2NHRYPR circuit through the front contact of the 66RWCR. Circuitry was changed, tests completed and signal system 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						
621	9/24/1999	AMTK		Remote		Commuter Rail Trai	Loop Interlocking - 14E	Boston, MA	N
			Human Error - Signal Circuit Design Error, Inadequate Service-Testing						
			Commuter Rail Road Foreman reported to ADE C&S Commuter the 14E signal at Loop Interlocking displayed an APPROACH MEDIUM into a SLOW APPROACH at the 14E at Broad Interlocking. Investigation revealed that a circuit design error from a field change that occurred on March 5, 1999 was the result of improperly displayed aspect on 14E at Loop. Circuitry was changed, tests completed and signal system returned to service. Investigation being conducted to determine responsibility.						
628	3/27/2000	AMTK	AB			N/A	Hand Throw Switch MP 14.9	Norwood, MA	N
			Human Error - Field Wiring Error, Inadequate Service Testing						
			Maintenance inspector discovered that the hand throw switch at MP 14.9 was not checking the signal control circuits for 2E signal at Norwood Central and 131.2 signal. This was found during a routine maintenance inspection. It appears that due to a signal circuit revision at Railroad Ave. sometime in 1995 the signal control circuits were removed from checking the hand throw switch at MP 14.9. Circuits were revised, tested and signal system returned to service. Person responsible for circuit changes made in 1995 no longer is employed by Amtrak.						
635	6/8/2000	AMTK		Manual		None Involved	64L Signal at 200 (DI)	Philadelphia, PA	N
			Failed Equipment or Device - Relay						
			Engineman on SEPTA train no. 562 reported that, while making a move on Track No. 1 at signal 54L, he looked over and observed signal 64L displaying a STOP AND PROCEED aspect. At no time did the operator at Zoo call for signal 64L to be cleared. Upon investigation, it was found that signal 64L was displaying a bottom marker light. Further investigation revealed that the bolt holding the No. 3 front contact of the 64LBHB relay had broken and the carbon contact inside of the relay slid down and allowed a continuous electrical path between the No. 3 front, heel, and back. This allowed EBX energy to be applied to the 64LBN2L circuit, thereby illuminating the 64L marker light. The relay was removed from service, a new relay installed, circuitry tested, and the signal system returned to service. Further testing with the vendor will take place to determine the cause of the bolt failure.						
662	3/22/2001	AMTK		Remote		Engine 1016, Train	L716 Signal	Somerville, Massachusetts	N
			Signal Equipment and/or Circuits Flooded						
			Engineer on train no. 204 reported that dwarf signal L716 at Reading Junction was displaying a MEDIUM CLEAR (Green over Flashing Red) with signal L670 at FX displaying Red over Flashing Red (imperfectly displayed). Upon investigation it was found that due to high water conditions at FX Interlocking, false energy was allowed to flow due to grounds, causing the L670 AYPR, L670 AGPR, L670 BYPR, and L670 BGPR relays to be energized at FX Interlocking. This resulted in L716 signal at Reading Junction displaying a false proceed due to false energy on the signal control relays at FX Interlocking. Signals were removed from service until floodwaters receded. After signal components were cleaned and dried out, the signal system was tested and placed back into service.						

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
672	6/21/2001	AMTK		Remote		Engine #552	42EA Signal	Sunnyside Yard "R" Interlocking, Queens, Ne	Y
			Human Error - Signal Equipment Improperly Installed						
			Switching engine #552 (operating as switching crew 53A with 1 car) was operating east at signal 42EA with RESTRICTING signal aspect being displayed for a move from track #30 to Lead #3 thru #35 crossover to Lead #4. When engine #552 physically entered Lead #4, car #48981 of Amtrak train #102 was struck account being in foul of #35 crossover. Upon investigation, insulated rail joint separating 402 and 403 track circuits on Lead #4 was incorrectly installed too close to the west of east end of #35 switch. Insulated rail joint has been relocated 47' west of the existing joint location allowing proper clearance. Further investigation into determining responsibility is being conducted.						
692	5/17/2002	AMTK		Automatic			Switch Detector Locking	Chicago, IL	Y
			Human Error - Improper Circuit Jumper in Place						
			On May 17, 2002 at approximately 8:30 AM-CT METRA Commuter train 2116 operating in a shoving move with 2 locomotives and 9 cars derailed the lead locomotive at the switch (37-MPF) entering track number nine. There were no injuries to passengers or crew. Investigation determined that the (37-MPF) switch had been thrown normal while the last locomotive was traversing over the switch. Investigation revealed that a 39-foot section of rail located between the N37 switch and the R40 signal had been removed to facilitate the replacement of long switch ties on track two. This rail removal caused the 37-track circuit to be down and the 37 & 39 switches to be detector locked. Engineer C&S revealed that jumpers had been applied bridging contacts in the 37 & 39 switch lock circuit, which disabled the switch locking circuits on the 37 & 39 switches. This condition allowed the train director to throw the 37-switch under the METRA train. This accident caused considerable damage to the interlocking infrastructure (Track & Signal) and on-board equipment which was estimated at $30,000 cost. Track and signal restoration was completed by 2-PM on Sunday, May 19, 2002. Record of jumper permission was found in [redacted] office per AMT-23, section number eight that indicated that [redacted] authorized the jumper to be applied (copies attached). This accident was caused by an employee failing to follow proper procedures in the application of jumpers, per Amtrak AMT-23 Rules number 300 thru 304 & 407. Rule number 302 reads: "The guiding principle at all times must be that any protection temporarily defeated by the jumper must be provided by some other means until the removal of all jumpers is assured and original protection is restored." Rule number 407 which reads in part "… When necessary to disconnect or impair the function of locks, circuits, or other safeguards in an interlocking, all switches affected must be safely secured before any train or engine is permitted to pass over them…" [redacted] failed to ensure that protective measures were in place. The Division Engineer has indicated to this writer that the events that caused this incident are not normal procedure. He has initiated new procedures for the application of jumpers that require his or [redacted] the Manager C&S authority. He has also scheduled instructional meetings with C&S employees to re-enforce jumper procedures, as well as checking C&S employee AMT-23 & 27 qualifications. He has also discussed discipline against [redacted] (who has accepted full responsibility for this accident), and is requiring [redacted] to meet with all C&S employees to discuss his involvement in this accident. The C&S system office will be issuing an advisory on the use of jumpers and attaching a paper copy of the Electronic Jumper Permission Log currently in use on the Northeast Corridor for distribution to other areas of the Amtrak system.						

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			Cause						
			Narrative						
719	10/31/2003	AMTK		Manual			Route Locking	Union Interlocking, Rahway, NJ	Y
			Human Error - Field Wiring Error, Inadequate Service Testing						
			On October 31, 2003 at approximately 7:15am New Jersey Transit train no. 3818 derailed while diverting No. 1 to "A" track west end of Union Interlocking over No. 43 switch reverse. The train remained upright, with only the lead MU derailed. There were no passenger injuries associated with the derailment. Investigation found that signal circuit wiring revisions completed incorrectly in May 2001 caused this derailment. As a result of this mistake by Amtrak signal employees the Route Locking was ineffective when the first circuit was occupied on No. 1 track in advance of the 44L signal when NJT 3818 passed the signal. Although Union Interlocking doesn't have an event recording of signal functions (no event recorder installed). NJT 3818 locomotive event recorder indicated that the cab signal changed from 120 (APPROACH MEDIUM) to 75-code rate (APPROACH) when the train crossed the insulated joints located close to 43-switch points. This event recording information indicates that the points of 43-switch had to move away from the reverse position toward normal position because the track circuit is designed with separate feeds that correspond with switch position. The C&S department believes that the tower lever man was able to operate the No. 43-switch to the normal position, and then back to the original reverse position in the face of NJT 3818 (however, the lever man states that he never threw the switch when NJT 3818 was traversing the route). This action caused the first MU car to derail when the first wheel set of the truck went toward No. 1 track, instead of No. "A" track. On October 31, 2003 C&S forces resolved the wiring problem; however, on Monday, November 3, 2003 the 43-switch was removed from service pending the completion of a full point check of all revised circuits. Discipline investigations will be scheduled for the responsible employees, as well as an inspection of other projects that were completed by the same Supervisor crew.						
723	2/24/2004	AMTK		Remote			Signal 64L	Valley Interlocking, Philadelphia, PA	N
			Human Error - Field Wiring Error, Inadequate Service Testing						
			On Tuesday, February 24, 2004, FRA Specialist [readcted] and Amtrak Signal Department personnel inspected Valley Interlocking signal 64L after receiving a report of a signal abnormality. This report indicated that 64L signal on number one (1) track was displaying a SLOW CLEAR signal aspect up to signal 52L at STOP. Amtrak Signal Department personnel in the presence of [redacted] were able to reproduce and verify the report. Signal 64L lighting cable wires 64L2SL and 64LSL were terminated incorrectly inside the low home signal. Inspection also found that the 64LS2L wire was not tagged inside the signal. Signal personnel corrected the wiring, meggered (tested) the cable, field tested signal relays, and made a full operational check of affected circuits. Signal system was left working as intended. Further investigation found that the last time the cable was tested was August 16, 1995. The employees who last tested the cable were interviewed, and claimed that they removed the light bulbs to facilitate testing the lighting cable, and did not remove any cable conductors. The test record that they signed was incomplete in that the 3rd conductor nomenclature was missing. The employees will be counseled for submitting incomplete test record information. Investigation cannot determine when the cable wires were incorrectly terminated. This false proceed incident will be reviewed with all C&S employees, and AMT-23 Rule 202, and AMT-27 Rule 23 will be re-enforced with all employees. These rules address safe procedures for returning vital signal circuits to service after any disarrangement of working circuits.						

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
			Cause						
			Narrative						
727	5/3/2004	AMTK					CP 226	Michigan City, MI	N

Human Error - Field Wiring Error, Inadequate Service Testing

On May 3, 2004 the Engineman operating train number 351 westbound reported to the train dispatcher that signal 224W was displaying a CLEAR signal aspect up against a STOP signal at CP-226 in Michigan City. Signal Department personnel dispatched to investigate this report were able to verify and reproduce the false proceed signal aspect observed by train number 351 at the intermediate signal 224W. An improperly wired GRS SA-1 signal mechanism at CP-226 allowed the 2RRGPR (Red Mechanism Repeater) and the 2RAHDGPR (Yellow/Green Repeater) to become energized at the same time. This resulted in track circuit Code-4 being transmitted from CP-226 to 224W signal location. This caused the 224W to display a CLEAR signal aspect into CP-226 STOP signal. The improperly wired GRS SA-1 signal mechanism located at CP-226 was corrected, and is now wired according to the signal circuit plans. Signal aspect tests were completed, and the signal system is now functioning as intended. It is not known how this error in wiring occurred. This CP has not been modified since its cutover around 1979. Checking the internal wiring of a signal mechanism is not a normal field activity unless there is a problem, and there is no reason to believe that circuits had been modified by field forces for any reason. As a precautionary measure signal department personnel will conduct tests at all locations on the Michigan Line to ensure that this type of incident doesn't occur in the future.

No. of Reports Shown in this Listing: **21**