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W-0411 – Red Signal Overrun at West Falls Church Rail Yard – February 14, 2025

Document Purpose:

This WMSC written report on WMATA Metrorail's safety event investigation and review of Metrorail's findings in accordance with the WMSC Program Standard, in conjunction with the attached Metrorail investigation report that has undergone WMSC staff review, feedback, and Metrorail revision, describes the investigation activities, identifies factors causing or contributing to the accident, and sets forth ongoing, additional, or upcoming corrective actions and further oversight work (such as inspections and audits) as necessary or appropriate. The WMSC's ongoing oversight during the investigative process, including safety event reporting and verification, participation in investigative interviews, data review, consistent communication with the Metrorail investigations team, and feedback on Metrorail's reports leads to further improvements prior to consideration of the reports by WMSC Commissioners for adoption. The WMSC's safety event investigation oversight assures the sufficiency and thoroughness of Metrorail's investigations. The WMSC Commissioners are considering these documents (the WMSC review and Metrorail's investigation report) as a unified item for adoption at the Washington Metrorail Safety Commission meeting on January 20, 2025.

WMSC staff recommends adoption of this investigation.

Red Signal Overruns

In 2025, Metrorail reported 11 red signal overruns, a decrease from the 14 reported in 2024. As of January 12th, there has been one red signal overrun in 2026. These overruns include trains and rail maintenance vehicles operating on both the mainline and in rail yards.

WMSC has conducted its own independent review of these events as they occur to understand the contributing causes and to explore methods that WMATA can implement to prevent recurrence.

WMSC staff completed an in-depth review of Metrorail's safety certification of the Automatic Train Operations project. This led to WMSC concurring on December 9, 2024 (Red Line), May 20, 2025 (Yellow/Green lines), and June 12, 2025 (Blue/Orange/Silver lines) that Metrorail had completed the safety certification process required to implement automatic train operations.

Automatic Train Operations (ATO) is not used in rail yards or during rail maintenance vehicle operation. There are additional instances when ATO cannot be used, including when trains are single-tracking or operating through an interlocking with a signal failure, as well during severe weather. ATO is not used during yard operations and, therefore, was not in use during the event detailed below.

Safety event summary:

On Friday, February 14, 2025, a train operator performing yard moves at West Falls Church Rail Yard, moved railcars on the incorrect track, resulting in a red signal overrun. Several deficiencies were identified during this safety event, including a lack of supervisory oversight and territory familiarization.

At approximately 6:56 a.m., a student interlocking operator, participating in on-the-job-training, being supervised by a West Fall Church Yard interlocking operator, instructed a train operator to move a two-car train, also referred to as a

deuce, located on the carwash track (track 16) to K99-82. The train operator correctly repeated back the instructions, but boarded railcars on the incorrect track, 20 East Lead, and informed the Student Interlocking Operator that they were aboard the railcar and holding at signal K99-316. Neither the student nor the West Falls Church Interlocking Operator identified that the Train Operator, based on the signal number provided, was not located on the track the instructions were provided for. The Student Interlocking Operator then instructed the Train Operator to stand by while work was being completed in the area.

At 7:44 a.m., the student interlocking operator, believing the train operator was on the carwash track, gave the train operator permission to pass red signal K99-308. However, the train operator, located on 20 East Lead, passed red signal K99-316. For a second time, none of the personnel involved identified that the train operator was not on the correct track. The student interlocking operator then gave the train operator an absolute block to no closer than 10 feet from red signal K99-82, and to then reverse operating ends (operate from the opposite end of the train). The train operator accurately repeated the instructions.

At 7:52 a.m., the train operator notified the student interlocking operator that they were holding at signal K99-82 and was instructed to secure the train at signal K99-82, while a track circuit malfunction was being resolved.

While investigating the switch out of correspondence, the West Falls Church Interlocking Operator discovered that the Train Operator had moved the incorrect railcars from the incorrect location. While moving the incorrect railcars, the Trian operator, trailed[1] the switch, causing it to go out of correspondence.

The Train Operator, West Falls Church Interlocking Operator, and the Student Interlocking Operator were removed from service for post-event toxicology testing.

Upon inspection, there was no damage to the trailed switch or railcars. The incident occurred at approximately 8:06 a.m. and was reported to the WMSC at 2:34 p.m., outside the required two-hour timeframe. This reporting delay was attributed to the length of the investigation which ultimately determined a red signal overrun had occurred.

The causes and contributing factors to the red signal overrun event include:

- Miscommunication between WMATA personnel
- Loss of/lack of focus and situational awareness
- Lack of territory familiarization
- Lack of supervisory oversight

Investigations W-0411 led to specific recommended corrective actions (RCA), including:

- Involved personnel attended refresher training with the emphasis on passing stop signals, improperly aligned switches, and proper reporting.

[1] Trailing a switch refers to a rail vehicle passing through a switch from the end where two tracks converge. This causes the wheels of the vehicle to force the switch points over if they're not already aligned, instead of requiring them to be aligned in advance.

- WMATA conducted safety campaigns to raise awareness of distracted driving, operating without speed commands, and preventing red signal overruns.

Metrorail is in the process of implementing WMSC-required corrective action plans (CAPs) which mitigate several of the causes and contributing factors noted above, including:

- C-0183 addresses the finding that Metrorail creates safety risks by not requiring and conducting territory familiarization and physical characteristics training and not assessing knowledge of physical characteristics prior to assigning operations personnel work on a line, in a terminal or in a yard (scheduled completion date October 2026).
- CAP C-0306 addresses the 2025 finding that Metrorail personnel are not following Metrorail radio transmission rules such as for train identification and location information (scheduled date of completion July 2026).

Washington Metropolitan Area Transit Authority
Department of Safety
Office of Safety Investigations

FINAL REPORT OF INVESTIGATION A&I E25252

Date of Event:	February 14, 2025
Type of Event:	O-8: Red Signal Overrun
Incident Time:	08:06 Hours
Location:	West Falls Church Yard
Time and How Received by Safety:	14:15 Hours, Safety Information Official (SIO)
Washington Metrorail Safety Commission (WMSC) Notification Time:	14:34 Hours
Responding Safety Officers:	Office of Safety Investigations (OSI)
Rail Vehicle:	Railcars 7594-95
Injuries:	None
Damage:	None
Emergency Responders:	None
Safety Management System Incidents/Accidents (SMS I/A) Incident Number:	20250218#123918

West Falls Church Yard – Red Signal Overrun

February 14, 2025

Table of Contents

Abbreviations and Acronyms

AIMS	Advanced Information Management System
ARS	Audio Recording System
ATCM	Automatic Train Control Maintenance
CCTV	Closed-Circuit Television
CMOR	Chief Mechanical Officer Rail
ER	Event Recorder
IIT	Incident Investigation Team
IO	Interlocking Operator
MICC	Metro Integrated Command and Communications Center
MOR	Metrorail Operating Rulebook
NOAA	National Oceanic and Atmospheric Administration
RPM	Rail Performance Monitoring
RTC	Rail Traffic Controller
RVO	Rail Vehicle Operator
RWP	Roadway Worker Protection
SIO	Safety Information Official
SMS	Safety Measurement System
VMDS	Vehicle Monitoring and Diagnostic System
WMATA	Washington Metropolitan Area Transit Authority
WMSC	Washington Metrorail Safety Commission

Executive Summary

**Note that all times listed are approximate and may contain minor variations due to differences between systems of record. **

On Friday, February 14, 2025, at 06:56 hours, a Rail Vehicle Operator (RVO) was instructed by a Student Interlocking Operator (IO), who was under the supervision of a permanent IO, to move two railcars eastbound on the carwash track (track 16). The RVO acknowledged the instructions and informed the Student IO as they were walking to the instructed track. Upon boarding the railcars on 20 East Lead, the RVO informed the Student IO that they were aboard the railcar and holding at signal K99-316. The Student IO advised the RVO to stand by due to an Automatic Train Control Maintenance (ATCM) Mechanic working in the area.

At 07:44 hours, the Student IO granted the RVO permission to pass signal K99-308 red and verify switch 303B was clamped and tucked in a normal position, but the RVO passed the incorrect red signal K99-316. The RVO was instructed to proceed at speeds no greater than 5 MPH over switches, with an absolute block no closer than 10 feet from red signal K99-82, key down, and reverse operating ends. The RVO repeated all instructions but moved the railcars on 20 East Lead instead of the assigned cars on the carwash track.

At 07:52 hours, the RVO informed the Student IO that they had keyed down and reversed operating ends at signal K99-82. The IO instructed the RVO to secure the railcars at that location and proceed to the administration building until the track circuit issue was resolved.

After the RVO moved the railcars from 20 East Lead and secured them at the K99-82 signal, the Student IO informed the ATCM Mechanic that switch 313 B was out of correspondence. While investigating why switch 313 B was out of correspondence, the IO noticed that the Rail Performance Monitoring (RPM) showed railcars in a location that could not be physically verified in the rail yard.

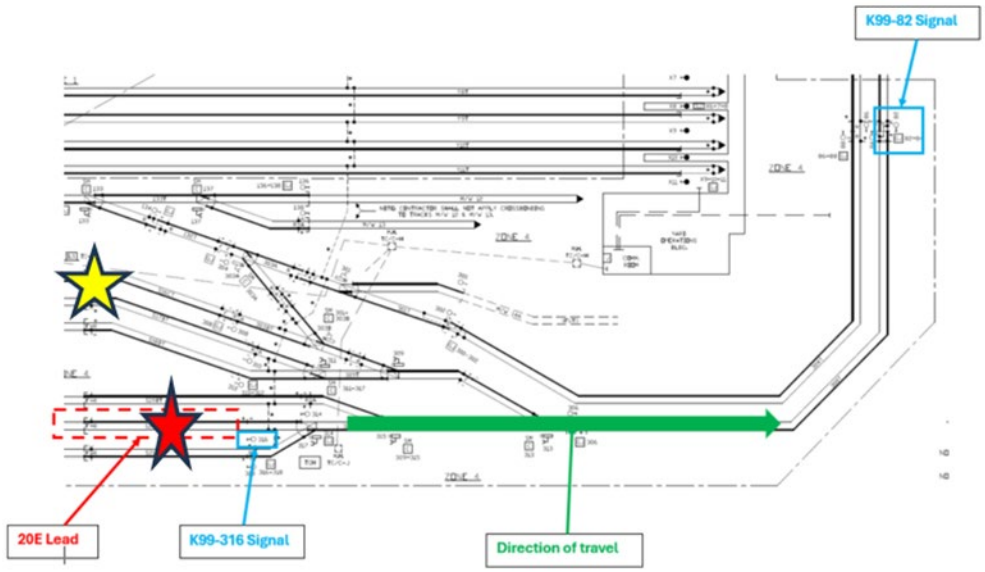
After contacting and verifying with multiple rail yards and the Metro Integrated Command and Communications Center (MICC), the IO discovered that the railcars secured by the RVO were incorrect. Railcars 7594-95 had been moved from 20 East Lead and had trailed switch 313B, which caused the switch to be out of correspondence. ATCM personnel inspected switch 313B, reported no damage, and confirmed that the train could be moved.

The probable cause for the Red Signal Overrun on February 14, 2025, at West Falls Church Yard track 20 East Signal K99-316 was the RVO's lack of awareness and inexperience. The RVO completed all their training at the Largo Division and was certified at the Alexandria Division. Additionally, the Student IO and IO were contributing factors because they failed to correct the RVO when the RVO mentioned being at the incorrect signal. Lastly, this event was not reported to the MICC within the prescribed timeframe.

Incident Site

West Falls Church Yard, Signal K99-316 on 20 East Lead

Field Sketch/Schematics



This picture is not to scale. The red star indicates the approximate location of railcars 7595-94, and the yellow star indicates the location of the railcars that the RVO was instructed to board.

Purpose and Scope

The purpose of this accident investigation and candid self-evaluation is to collect and analyze available facts, determine the probable cause(s) of the incident, identify contributing factors, and make recommendations to prevent a recurrence.

Investigative Methods

Upon receiving notification of the Red Signal Overrun at the West Falls Church Yard on February 14, 2025, Safety dispatched a cross-functional team to assess the scene and conduct the subsequent investigation. Safety team members worked with relevant WMATA subject matter experts to review the incident's facts and data.

The investigative methodologies included the following:

- Physical Site Assessment.
- Formal Interviews – Safety interviewed four individuals as part of this investigation. The interview included persons present at, during, and after the incident, those directly involved in the response process, and representatives from the Washington Metrorail Safety Commission (WMSC). Safety interviewed the following individuals:
    - Rail Vehicle Operator
    - Interlocking Operator
    - Student Interlocking Operator
    - Button RTC

- Informal Interviews – Collected through conversations with individuals during the investigation to provide background and supporting information. Written statements were reviewed from personnel present during the event.

- Documentation Review – Collection of relevant work history information and process documentation contained in WMATA systems of record. These records include:
    - RVO Training Records
    - 30-Day work history review
    - Metrorail Operating Rulebook (MOR)
    - National Oceanic and Atmospheric Administration (NOAA)
    - Metro Integrated Command and Communications (MICC) Incident Report
    - Oracle Data

- System Data Recording Review – Collection of information contained in Metro Data Recording Systems. This data includes:
    - Audio Recording System (ARS) playback
    - Vehicle Monitoring and Diagnostic System (VMDS)

Investigation

According to Audio Recording System (ARS), at 06:56, the RVO was instructed by the Student IO while under the supervision of a permanent IO to report to the carwash and move two rail cars eastbound.

At 07:00 hours, the RVO requested that the Student IO repeat their instructions several times before they finally understood. Six minutes later, the RVO reported that they were holding at K99-316 signal. Then, the Student IO advised the RVO to stand by without repeating their signal.

According to the formal interview, the RVO stated they saw railcars 7594-95 on the east side of the shop and boarded that train. At 07:44 hours, the Student IO granted the RVO permission to pass red signal K99-308. They were instructed to verify that switch 303B was clamped and secured in the normal position[1].

According to Closed Circuit Television (CCTV), at 7:49 hours, railcars 7595-94 passed red signal K99-316 eastbound on track 20 East Lead.

At 07:52 hours, the RVO informed the Student IO that they had keyed down and reversed ends at K99-82. One minute later, the Student IO informed ATCM personnel that switch 313 B was out of correspondence after noticing that the entire east side of the control board flashed red.

At 08:41 hours, the IO contacted West Falls Church Maintenance Office to verify the location of railcar 7594, which was showing as located on 20 East Lead per the RPM Map. The IO could not locate the railcar, so they contacted all rail yards and the MICC to confirm that railcar 7594 was in West Falls Church Yard. After making the calls to the rail yards and the MICC, the IO could not verify if railcar 7594 was in the yard, so they physically walked West Falls Church Yard. The IO located railcar 7594 secured at the K99-82 signal, where the RVO moved the railcars from 20

[1] Allow trains to move along the main track without diverting.

East Lead at 07:05 hours. ATCM personnel performed an inspection of switch 313 B and reported that there was no damage and that the trains could safely be moved.

At 12:07 hours, the IO informed the Superintendent of West Falls Church Division of the red signal overrun. The IO was delayed in notifying division management because they were trying to investigate what happened and locate railcar 7594. This delay in notifying the division management and the MICC lead to the delay in notifying the WMSC within the two timeframe.

At 13:52 hours, the Superintendent of West Falls Church Division contacted the Button RTC to inquire whether they were aware of a red signal overrun that occurred in West Falls Church Yard, which the MICC had not been informed about. After learning that MICC was unaware of this occurrence, they were instructed to call back in eight minutes due to an impending shift change.

Chronological Event Timeline

A review of ARS playback, i.e., phone and radio communications, revealed the following timeline:

Time	Description
06:56:37 hours	Student IO: Instructed RVO after securing the deuce on 18 West lead, step over to the carwash, and come away with that deuce eastbound. [Radio Ops FCYD 1]
07:00:40 hours	RVO: Informed Student IO that they were stepping over to the eastbound to get a duce. Student IO: Acknowledged that the RVO was stepping over and instructed carwash eastbound. [Radio Ops FCYD 1]
07:06:02 hours	RVO: Informed Student IO that they were holing at K99-316 Student IO: Instructed RVO to Stand-by to ATC working in the area.
07:18:12 hours	Student IO: Informed RVO still standing by for ATC. RVO: Acknowledged [Radio Ops FCYD 1]
07:44:43 hours	Student IO: Gave permission to RVO to pass K99-308 red verifying switch 303B was clamped and tucked in the normal no greater than five MPH over switches with an absolute block no closer than 10 feet K99-82 red key down and reverse IO: Repeated back all instructions. [Radio Ops FCYD 1]
07:49:06 hours	Railcars 7595-94 passing signal K99-316 [CCTV]
07:52:54 hours	RVO: Informed Student IO that they had reversed ends. Student IO: Instructed RVO to stand by due to a switch still being out of correspondence. [Radio Ops FCYD 1]
07:53:25 hours	Student IO: Informed Automatic Train Operation Mechanic (ATO) that switch 313 B was out of correspondence. [Radio Ops FCYD 1]
08:12:03 hours	IO: Instructed RVO to leave the train where it was and go in the admin building until track circuit issue was resolved. [Radio Ops FCYD 1]
08:17:14 hours	IO: Instructed RVO to go to 18 West Lead. [Radio Ops FCYD 1]
08:41:39 hours	IO: Contacted West Falls Church Car Maintenance Office (CMNT) verifying the location of rail car 7594, which should have been 20 East Lead. [K99 tower Phone]
08:45:51 hours	CMNT: Confirmed that there is nothing on the east leads. [Phone]
08:59:13 hours	IO: Contacted the Vienna blockhouse to ask if they had railcar 7594. [K99 Tower Phone]

Time	Description
09:00:50 hours	IO: Contacted Ashburn Terminal Supervisor to check the interval sheet to see if railcar 7594 came there. Ashburn Terminal Supervisor: Informed them, No. [K99 Phone]
09:02:00 hours	IO: Asked the Yard RVO where they moved railcar 7594. Yard RVO: Initially could not remember but then confirmed they moved it to 20 East lead.
12:07:23 hours	IO: Informed West Falls Church Division Management of Red Signal Overrun. [K99 Tower Phone]
13:52:28 hours	West Falls Church Superintendent: Informed Button RTC of the red signal overrun in the West Falls Church Yard and was instructed to call back in eight minutes. [Phone BL/OR]
14:15:14 hours	Operations Manager (OM): Informed Safety Information Official (SIO) of Red Signal Overrun at West Falls Church Yard. [EMERG MGMT Phone]
14:30:40 hours	SIO: Informed WMSC of Red Signal Overrun at West Falls Church Yard. [EMERG MGMT Phone]

Note: Times above may vary from other systems' timelines based on clock settings.

The Office of Chief Mechanical Officer / Incident Investigation Team
Adopted from Office of Chief Mechanical Officer IIT report with minor formatting and grammatical edits:

The Office of Chief Mechanical Officer (CMOR), Incident Investigation Team (IIT), analyzed the downloaded data.

Railcars 7595-94 were reported for running red signal K99-316 when departing 20 East Lead in the direction of K99-82 signal. Based on Event Recorder (ER) data, railcar 7595's Hostler Panel was keyed up on the open end of 20 East Lead. The Hostler was moved to a P1-P4 Power position, and the train began to move away from the shop towards K99-82 Signal. The train traveled 465 feet before coming to a complete stop. The train traveled at speeds no greater than 5.9 MPH during that time. The Hostler was again placed in a P1-P4 Power position, and the train began to move in the direction of the K99-82 signal. The train traveled an additional 387 feet before coming to a complete stop, traveling no greater than 8.1 MPH during that time. The Hostler panel on railcar 7595 was then keyed down. Railcar 7594 was then keyed up on the opposite end. Railcar 7594 did not move and was keyed down. Based on ER and Vehicle Monitor Data Systems (VMDS) data, there was no fault with the train that contributed to the cause of this incident. The train performed as commanded.

Timeline of events

Time	Description
07:05:31.000	Railcar 7595 was keyed up on 20 East Lead.
07:48:50.710	The Hostler Panel was placed in a P1-P4 Power position, and the train began to move toward K99-82.
07:50:06.800	The train traveled 465 feet before stopping, traveling at speeds no greater than 5.9 MPH.
07:50:20.450	The Hostler Panel was placed in a P1-P4 Power position, and the train again began to move toward K99-82.
07:51:14.940	The train traveled an additional 387 feet before coming to a complete stop, traveling at speeds no greater than 8.1 MPH. The Hostler Panel on Railcar 7595 is keyed down at this time.
07:52:05.070	Railcar 7594 was Keyed Up.
08:12:28.540	Railcar 7594 was Keyed Down.

Note: Times above may vary from other systems' timelines based on clock settings.

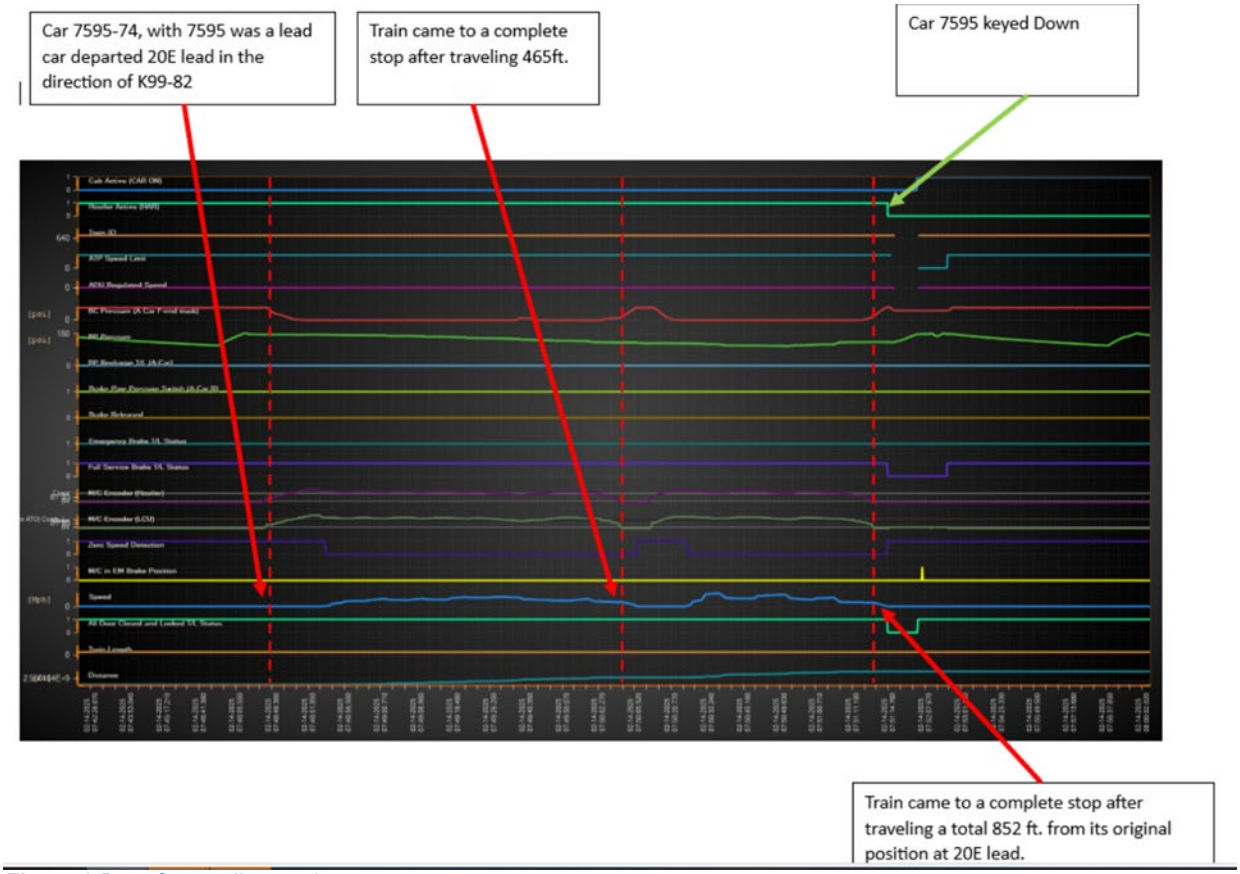


Figure 1 Data from railcar 7595

Office of Systems Maintenance, Office of Radio Communications

No radio communication issues were observed during this event.

Office of Communications and Signaling
Adopted from the Office of Communications and Signaling report:

At 07:30 hours, Track circuit 303 BT was occupied due to a broken rail between Signal 308 and 309. Track circuit S20B was occupied by a non-revenue train. At 07:37:08, a non-revenue train unoccupied track circuit S20B and passed signal 316 over the red signal aspect, and no lunars were noticed through the train movement switches 309(N), 311(R), 313(N), 315(N), and 317(N) were all locked. As a result, switch 313 was forced out of correspondence in the reverse position trailing the switch. At 07:37 hours, the non-revenue train continued past signal 306 and occupied track circuit 308 T.

Office of Rail Transportation
Adopted from the Office of Rail Transportation report:

According to the Rail Transportation Division Management report, at 8:06 am, RVO was instructed by Student IO to move railcars 3042-43 from the car wash lead and permitted to pass red signal K99-308 with switch 308 B clamped in the normal position due to being out of correspondence. RVO repeated instructions and moved railcars 7594-95 from 20 East lead through red signal K99-316 trailing switch 313 B. West Falls Church Division Management was notified at 12:20 pm of the incident, and there was no damage to switch 313 B. RVO, Student IO, and IO were removed from service and transported for post-incident testing by Rail Operation Supervisor.

Interview Findings and Written Statements
As part of the investigation launched into the event, Safety interviewed four people. The interviews identified the following key findings associated with this event. The findings detailed below include reported information from involved personnel and may conflict with other data sources contained in the report.

RVO

- The RVO stated they were new to West Falls Church rail yard and had only been trained at Alexandria rail yard before certifying as an RVO.
- The incident occurred on the RVO's first day working in the rail yard alone.
- The RVO did not know the exact location of assigned railcars but thought they were on the right side of the east side of the shop.
- The RVO completed their rail vehicle operator certification at Alexandria Rail Division
- The RVO stated they saw railcars 7594-95 on the east side of the shop and boarded that train.

IO

- The IO stated ATCM was working in West Falls Church Yard due to a down-track circuit.
- The IO stated that they could not verify occupancy on the control board due to the affected down-track circuit.
- The IO stated that they assumed that the RVO was moving on the correct track.
- The IO stated that the East leads are not visible from the tower.
- The IO stated that they only contacted Division Management.

Student IO

- The Student IO stated that the RVO struggled to understand their instructions.

- The Student IO stated that they assumed RVO was moving from the carwash track.
- The Student IO has worked as an IO for two months at West Falls Church Yard.
- The Student IO stated that they were instructed by the IO to contact division management.

Button RTC

- The Button RTC stated the initial report of the red signal overrun was made by the Superintendent of West Falls Church Division.
- The Button RTC stated they mistakenly asked if this could wait eight minutes, call back, and have the next shift take the report.
- The Button RTC stated that they did not report any information to MICC Management or their relief.

Weather

On February 14, 2025, at the time of the incident, NOAA recorded the temperature as 35°F, with fair skies, winds 10 mph, and 33% humidity. The weather did not contribute to this incident (Weather source: NOAA) – Location: Falls Church, Virginia.

Related Rules and Procedures

Metro Operating Rulebook (MOR)

3.3 Signals Requiring a Stop Rail vehicles shall not be operated past or closer than a point 10 feet in approach of an interlocking signal or lamp displaying a red aspect, a red flag, or a dark interlocking signal, except at a bumping post or pocket track, or unless authorized by the Rail Traffic Controller or the Interlocking Operator and the move is consistent with customer safety.

Human Factors

Evidence of Fatigue

RVO

A Safety Investigator examined signs and symptoms of fatigue that may have been present at the time of the incident. No video of the person involved was available to ascertain whether signs of fatigue were present. The employee reported feeling fully alert at the time of the incident. The employee reported experiencing no symptoms of fatigue in the time leading up to the incident.

IO

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Student IO

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fatigue were present. The employee reported feeling fully alert at the time of the incident. The employee reported experiencing no symptoms of fatigue in the time leading up to the incident.

Signs and Symptoms of Fatigue

Fatigue Risk

RVO

A Safety Investigator evaluated incident data for fatigue risk factors. No significant risk was identified. The incident time of day did not suggest an increased risk of fatigue-related impairment. The Employee reported keeping a regular sleep schedule in the days leading up to the incident. The employee worked the day shift in the days leading up to the incident. The employee was awake for five hours at the time of the incident. The employee reported seven hours and thirty minutes of sleep in the 24 hours preceding the incident. This was comparable to the employee's usual workday sleep durations. The off-duty period was sixty-three hours and thirty-three minutes, which provided an opportunity for 7-9 hours of sleep. The employee reported no issues with sleep.

IO

A Safety Investigator evaluated incident data for fatigue risk factors. No significant risk was identified. The incident time of day did not suggest an increased risk of fatigue-related impairment. The employee reported keeping a regular sleep schedule in the days leading up to the incident. The employee worked the day shift in the days leading up to the incident. The employee was awake for three hours and thirty-nine minutes at the time of the incident. The employee reported nine hours and twenty-seven minutes of sleep in the 24 hours preceding the incident. This was more than the employee's usual workday sleep durations. The off-duty period was sixteen hours, which provided an opportunity for 7-9 hours of sleep. The employee reported no issues with sleep.

Student IO

A Safety Investigator evaluated incident data for fatigue risk factors. No significant risk was identified. The incident time of day did not suggest an increased risk of fatigue-related impairment. The employee reported keeping a regular sleep schedule in the days leading up to the incident. The employee worked the day shift in the days leading up to the incident. The employee was awake for four hours and eighteen minutes at the time of the incident. The employee reported eight hours and fifteen minutes of sleep in the 24 hours preceding the incident. This was comparable to the employee's usual workday sleep durations. The off-duty period was sixteen hours, which provides an opportunity for 7-9 hours of sleep. The employee reported no issues with sleep.

Post-Incident Toxicology Testing

WMATA's Drug and Alcohol Program determined that the Rail Vehicle Operator, Student Interlocking Operator and Interlocking Operator complied with the Drug and Alcohol Policy and Testing Program 7.7.3/6.

Findings

- RVO was instructed to remove a train from the carwash.
- RVO had difficulties understanding verbal instruction over the radio.
- RVO boarded the train on track 20 East.
- RVO informed Student IO that they were standing by K99-316.
- The Student IO instructed the RVO to pass red signal K99-308.

Immediate Mitigation to Prevent Recurrence

- In adherence to Standard Operating Procedure 102-01-02, which outlines the protocol for Removing an Employee from Service for involvement in an operational safety event, the IO contacted division management, who dispatched a Rail Supervisor to relieve the IO, Student IO, and RVO from duty for post-incident testing.

Probable Cause Statement

The probable cause for the Red Signal Overrun on February 14, 2025, at West Falls Church Yard track 20 East Signal K99-316 was the RVO's lack of awareness and inexperience. The RVO completed all their training at the Largo Division and was certified at the Alexandria Division. Additionally, the Student IO and IO were contributing factors because they failed to correct the RVO when the RVO mentioned being at the incorrect signal. Lastly, this event was not reported to the MICC within the prescribed timeframe.

Recommended Corrective Actions

Corrective Action Code	Description	Responsible Party	Estimated Completion Date
123918_SAFECAPS_RTRA_001	RVO will attend refresher training reviewing MOR 3.1 Passing a stop signal and 3.4 improperly aligned switches.	RTRA SRC	Complete
123918_SAFECAPS_RTRA_002	IO will attend refresher training reviewing MOR 3.4.2 if a rail vehicle runs through an improperly aligned track switch, the RVO shall stop the vehicle immediately, and report the occurrence to the RTC or IO. All parties shall treat the situation as if the vehicle has derailed, and the vehicle shall not be moved. Subsequent movement of affected rail vehicles shall not be undertaken until investigated and determined to be safe by authorized personnel.	RTRA SRC	Completed

Corrective Action Code	Description	Responsible Party	Estimated Completion Date
123918_SAFE CAPS_RTRA _003	Student IO will attend refresher training reviewing MOR 3.4.2 if a rail vehicle runs through an improperly aligned track switch, the RVO shall stop the vehicle immediately, and report the occurrence to the RTC or IO. All parties shall treat the situation as if the vehicle has derailed, and the vehicle shall not be moved. Subsequent movement of affected rail vehicles shall not be undertaken until investigated and determined to be safe by authorized personnel.	RTRA SRC	Completed
123918_SAFE CAPS_RTRA _004	RTRA will develop and distribute a staying focused: Preventing red signal overruns and zero speed commands campaign	RTRA SRC	Completed

Appendices

Appendix A – Interview Summaries

The below narratives summarize the incident and represent the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

RVO

The RVO is a WMATA employee with 22 years of service and less than 1 year of experience as an RVO. The RVO holds a Roadway Worker Protection (RWP) Level 2 certification that expires in January 2027.

During the interview, the RVO reported that they were new to rail operations, and on the day of the overrun at West Falls Church Yard, this was their first day working alone.

The RVO stated that the radio communication was difficult to understand on the day of the event, and they kept asking the IO's to repeat their instructions.

The RVO Stated that they thought they were in the right place on the east side of the shop, and once permitted to pass the red signal, they did not look at the signal before moving.

IO

The Interlocking Operator (IO) is a WMATA employee with 25 years of service and 10 years of experience as an IO. The IO holds a Roadway Worker Protection (RWP) Level 2 certification that expires in May 2025.

During the interview, the IO reported that they were training a student at the time and that there were multiple issues within the yard, which ATC was working on. The Student IO instructed the RVO to board the 3k cars in the car wash and come out on the east side. After the Student IO gave the original instruction, the RVO had difficulty repeating back but eventually was able to repeat all the instructions; after repeating all the instructions, the Student IO and IO assumed that the RVO was on the right track. After the RVO moved, the control board flashed red, showing switch 303B was out of correspondence, but due to a track circuit being out on the east side of the yard, the IO thought it was a false reading. After verifying that switch 303B was out of correspondence, the IO contacted division management to notify them of the signal being run due to the RVO moving rail cars off the incorrect track.

The IO stated that they only knew of this incident after attempting to locate rail car 7594-95 within the yard on 20 East Lead. They couldn't until they physically walked the yard and noticed that the cars that the RVO secured were the incorrect cars, which were the cars on 20 East and had trailed switch 303B.

Student IO

The Student IO is a WMATA employee with 11 years of service and less than 1 year of experience as an IO. The Student IO holds a Roadway Worker Protection (RWP) Level 2 certification that expires on June 2025.

During the interview, the Student IO reported that they were training with the IO, and a lot was going on in the yard that day, where ATC was working on a down-track circuit on the east side of the shop.

The Student IO mentioned that while giving the RVO instructions over the radio, the RVO was struggling to understand them but eventually got it. After the RVO repeated all the instructions, the RVO just moved the train, which, at that time, the track circuit was still out, and they assumed that the RVO was moving from the carwash. Once the board lit up, showing that 303 B was out of correspondence, they figured it was due to the down track circuit and advised ATC of the issue. ATC responded to the tower and 303 B and fixed the issue. When the IO walked the yard and found car 7594, they realized that the RVO had moved the incorrect cars off the wrong track and trailed switch 303 B. At that time, the IO made calls to division management to inform them of the incident.

Button RTC

The Button RTC is a WMATA employee with 3 years of service and 1 year of experience as an RTC. The Button RTC holds a Level 4 Roadway Worker Protection certification that expires on July 2025.

During a formal interview, the Button RTC stated that they received a call from West Falls Church Division Management requesting confirmation on whether they had received notification of a Red Signal Overrun at the West Falls Church rail yard. The Button RTC stated they had not received any notification of a Red Signal Overrun event and instructed Division Management personnel to call MICC back in eight minutes.

The Button RTC further explained that they gave this instruction because they were nearing the end of their shift, and their relief could document the incident.

The Button RTC stated they did not inform their relief or Rail 2 of the Red Signal Overrun event.

Appendix B – Ops Reports

WMATA/RTRA Incident/Accident Report (Other than Motor Vehicle) Page ___ of ___

Incident Information: This page must be completed for all incidents

Date:	Incident Time:	Time Reported:	Reported by: Customer ❑ Employee ☑ ROCC ❑ Other ❑
2-15-25	8:06	12:18	

Location

Station	Mezzanine #	Track #/Destination	Chain Marker/Signal Number
West Falls	NA	NA	NA

TYPE OF INCIDENT

❑ Property Damage	❑ Smoke	❑ Fire	❑ Customer Complaint
❑ Customer injury	❑ Customer Illness	❑ Employee Injury	❑ Employee Illness
❑ Criminal Activity	❑ Elevator Entrapment	❑ Rail Vehicle Incident	❑ Other (Explain in description of incident)

WEATHER	LIGHT CONDITIONS (natural lighting)	LIGHTING (artificial lighting)
Clear ☑ Rain ❑	Dawn/Dusk ❑ Daylight ☑	Lights On ☑ Lights Off ❑
Snow ❑ Sleet/Ice ❑	Dark ❑ Tunnel/Underground ❑	Lights Not Working ❑

STATION INCIDENTS: Always include equipment number you use for MOC/AFC/EOC

Elevator/Escalator#:	AFC #:	Room Number/Location:
NA	NA	NA

Failure Number(s):

Parking Lot ❑ Paid Area ❑ Free Area ❑ Garage ❑ Station Entrance ❑ Stairway # ___ ❑ Platform ❑ Ancillary Room ❑

Injury/Illness reported aboard Train ❑ Other ❑

Name of Responding Supervisor: NA | Name/Department of PLNT/AFC or other WMATA responder: NA

TRAIN INCIDENTS

Train ID	Destination	Car Numbers/list all cars in consist:	Lead Car:
		7595	

Name of Responding Supervisor: [redacted] | Name/Department of CMNT/TRST or other WMATA responder

DESCRIBE THE INCIDENT: Include what you did to correct the problem and who you notified and when.

Describe any property damage and the extent of any injuries.

I took the wrong train out of the shop.

Employee Completing Report

Employee Name:(print)	Employee Signature:(sign)	Employee #	Date:
[redacted]	[redacted]	[redacted]	2-15-25

Division:	Run #	Block #	Assigned Days:
West Falls Church	31	NA	W-Th

To Be Completed By Reviewing Manager

Supervisor Name:(print)	Supervisor Signature	Employee #	Date:

Action taken/needed

SMS Number:

50.753A 04/12 White Copy: Division or Supervisor Yellow Copy: For any incident involving escalators or elevators, remains in kiosk for use of elevator/escalator inspectors

Figure 2 RVO Written Report

WMATA/RTRA Incident/Accident Report (Other than Motor Vehicle) Page ___ of ___

Incident Information: This page must be completed for all incidents

Date:	Incident Time:	Time Reported:	Reported by: Customer ❏ Employee ☑ ROCC ❏ Other ❏ ______
2-14-2025	8:06 am	12:18 pm	

Location

Station	Mezzanine #	Track #/Destination	Chain Marker/Signal Number

TYPE OF INCIDENT

❏ Property Damage ❏ Smoke ❏ Fire ❏ Customer Complaint
❏ Customer injury ❏ Customer Illness ❏ Employee Injury ❏ Employee Illness
❏ Criminal Activity ❏ Elevator Entrapment ☒ Rail Vehicle Incident ❏ Other (Explain in description of incident)

WEATHER	LIGHT CONDITIONS (natural lighting)	LIGHTING (artificial lighting)
Clear ☒ Rain ❏	Dawn/Dusk ❏ Daylight ☒	Lights On ❏ Lights Off ☒
Snow ❏ Sleet/Ice ❏	Dark ❏ Tunnel/Underground ❏	Lights Not Working ❏

STATION INCIDENTS: Always include equipment number you use for MOC/AFC/EOC

Elevator/Escalator#: AFC #: Room Number/Location:

Failure Number(s): N/A

Parking Lot ❏ Paid Area ❏ Free Area ❏ Garage ❏ Station Entrance ❏ Stairway # ____ ❏ Platform ❏ Ancillary Room ❏
Injury/Illness reported aboard Train ❏ Other ❏ ______________

Name of Responding Supervisor: Name/Department of PLNT/AFC or other WMATA responder

TRAIN INCIDENTS

Train ID	Destination	Car Numbers(list all cars in consist):	Lead Car:
N/A	Yard	7594-7595	7595

Name of Responding Supervisor: [redacted]

Name/Department of CMNT/TRST or other WMATA responder

DESCRIBE THE INCIDENT: Include what you did to correct the problem and who you notified and when.
Describe any property damage and the extent of any injuries.

Operator [redacted] was instructed to move cars 3044-3083 from car wash eastbound to pass K99 308 red with ATC 2100 clamping switch 303B with absolute block up to K99 92 signal red. Operator [redacted] move cars 7594-7595 instead through K99 316 red switch 313

Employee Completing Report

Employee Name:(print)	Employee Signature:(sign)	Employee #:	Date:
[redacted]	[redacted]	[redacted]	2-14-2025

Division:	Run #	Block #	Assigned Days:
WFC	20	/	SS

To Be Completed By Reviewing Manager

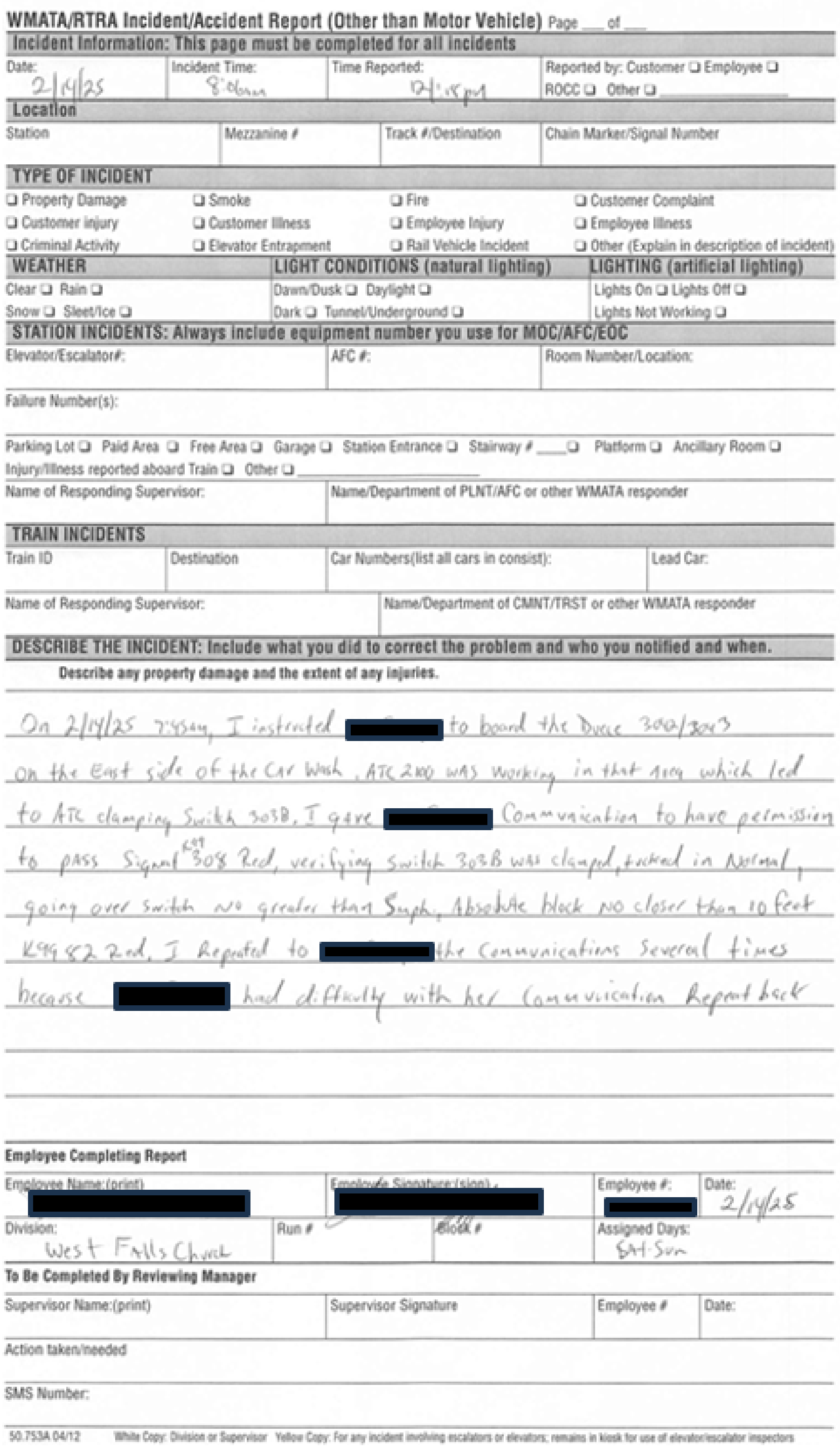
Supervisor Name:(print)	Supervisor Signature	Employee #	Date:

Action taken/needed

SMS Number:

50.753A 04/12 White Copy: Division or Supervisor Yellow Copy: For any incident involving escalators or elevators; remains in kiosk for use of elevator/escalator inspectors

Figure 3 IO Written Report



WMATA/RTRA Incident/Accident Report (Other than Motor Vehicle) Page ___ of ___

Incident Information: This page must be completed for all incidents

Date:	Incident Time:	Time Reported:	Reported by: Customer ❑ Employee ❑ ROCC ❑ Other ❑
2/14/25	8:06am	12:18pm	

Location

Station	Mezzanine #	Track #/Destination	Chain Marker/Signal Number

TYPE OF INCIDENT

❑ Property Damage ❑ Smoke ❑ Fire ❑ Customer Complaint
❑ Customer injury ❑ Customer Illness ❑ Employee Injury ❑ Employee Illness
❑ Criminal Activity ❑ Elevator Entrapment ❑ Rail Vehicle Incident ❑ Other (Explain in description of incident)

WEATHER	LIGHT CONDITIONS (natural lighting)	LIGHTING (artificial lighting)
Clear ❑ Rain ❑	Dawn/Dusk ❑ Daylight ❑	Lights On ❑ Lights Off ❑
Snow ❑ Sleet/Ice ❑	Dark ❑ Tunnel/Underground ❑	Lights Not Working ❑

STATION INCIDENTS: Always include equipment number you use for MOC/AFC/EOC

Elevator/Escalator#: AFC #: Room Number/Location:

Failure Number(s):

Parking Lot ❑ Paid Area ❑ Free Area ❑ Garage ❑ Station Entrance ❑ Stairway # ___ ❑ Platform ❑ Ancillary Room ❑
Injury/Illness reported aboard Train ❑ Other ❑ ___

Name of Responding Supervisor: Name/Department of PLNT/AFC or other WMATA responder

TRAIN INCIDENTS

Train ID Destination Car Numbers(list all cars in consist): Lead Car:

Name of Responding Supervisor: Name/Department of CMNT/TRST or other WMATA responder

DESCRIBE THE INCIDENT: Include what you did to correct the problem and who you notified and when.
Describe any property damage and the extent of any injuries.

On 2/14/25 7:54am, I instructed [redacted] to board the Duce 3002/3003 on the East side of the Car Wash, ATC 2100 was working in that area which led to ATC clamping Switch 303B, I gave [redacted] Communication to have permission to pass Signal K99 308 Red, verifying Switch 303B was clamped, locked in Normal, going over Switch no greater than 5mph, Absolute block no closer than 10 feet K99 82 Red, I Repeated to [redacted] the Communications Several times because [redacted] had difficulty with her Communication Repeat back

Employee Completing Report

Employee Name:(print)	Employee Signature:(sign)	Employee #:	Date:
[redacted]	[redacted]	[redacted]	2/14/25

Division:	Run #	Block #	Assigned Days:
West Falls Church			Sat-Sun

To Be Completed By Reviewing Manager

Supervisor Name:(print)	Supervisor Signature	Employee #	Date:

Action taken/needed

SMS Number:

50.753A 04/12 White Copy: Division or Supervisor Yellow Copy: For any incident involving escalators or elevators; remains in kiosk for use of elevator/escalator inspectors

Figure 4 Student IO Written Report

Appendix C – Scene Photographs

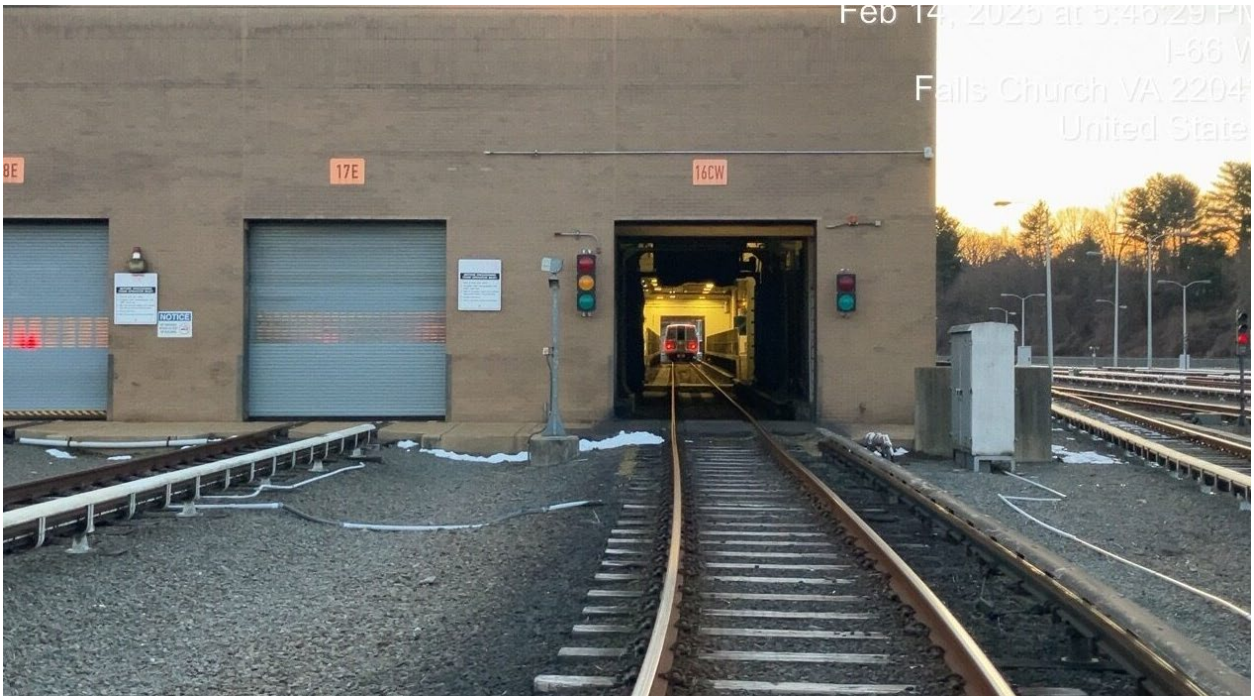


Figure 5 Carwash Track

Figure 6 Signal K99-308

Figure 7 East Side of the S&I Shop

Figure 8 Railcar 7594 passing signal K99-316 red

	Washington Metropolitan Area Transit Authority	
metro	**INVESTIGATION REPORT**	K99_Incident Analysis Report-0.0-022825

Incident Title: Red Signal Overrun

Incident Date/Time: 02/14/2025 07:30 - 08:30

Incident Location: K99 Yard

EXECUTIVE SUMMARY:

- As of initial state at 07:30, Track 303BT was occupied due to broken rail between Signal 308 and 309. Track circuit S20B was occupied by non-revenue train.
- At 07:37:08, non-revenue train unoccupied track circuit S20B and did past signal 316 over red signal aspect and no lunars were noticed through the train movement - SW-309(N) 311(R) 313(N) 315(N) 317(N) all locked.
- As a result, switch 313 was forced to be OCC in Reverse position and trailed.
- At 07:37:31, non-revenue train continued to pass signal 306 and occupied track circuit 308t.

Washington Metropolitan Area Transit Authority	
INVESTIGATION REPORT	K99_Incident Analysis Report-0.0-022825

COSI-SIGNAL ENGINEERING	Washington Metropolitan Area Transit Authority	Detailed Incident Analysis	
		Report Num:	
		Requestor:	SAFE
		Date:	02/28/2025
		From:	[redacted]
		To:	

Reported Data:		Time:		Train ID	
Description:	Red Signal overrun at K99		Interlocking Control: N/A		
Requested Analysis: Investigate Incident					

INITIAL STATE AS OF: 07:30

Name	STATE	AUTO	NAME	STATE	AUTO	NAME	STATE	AUTO
303BT	Occupied		Signal 308	Stop/Red	N/A	Switch 315	Normal	N/A
S20BT	Occupied		Switch 309	Normal	N/A	Switch 317	Normal	N/A
Signal 316	Stop/Red	N/A	Switch 311	Reverse	N/A			
Signal 366	Stop/Red	N/A	Switch 313	Normal	N/A			

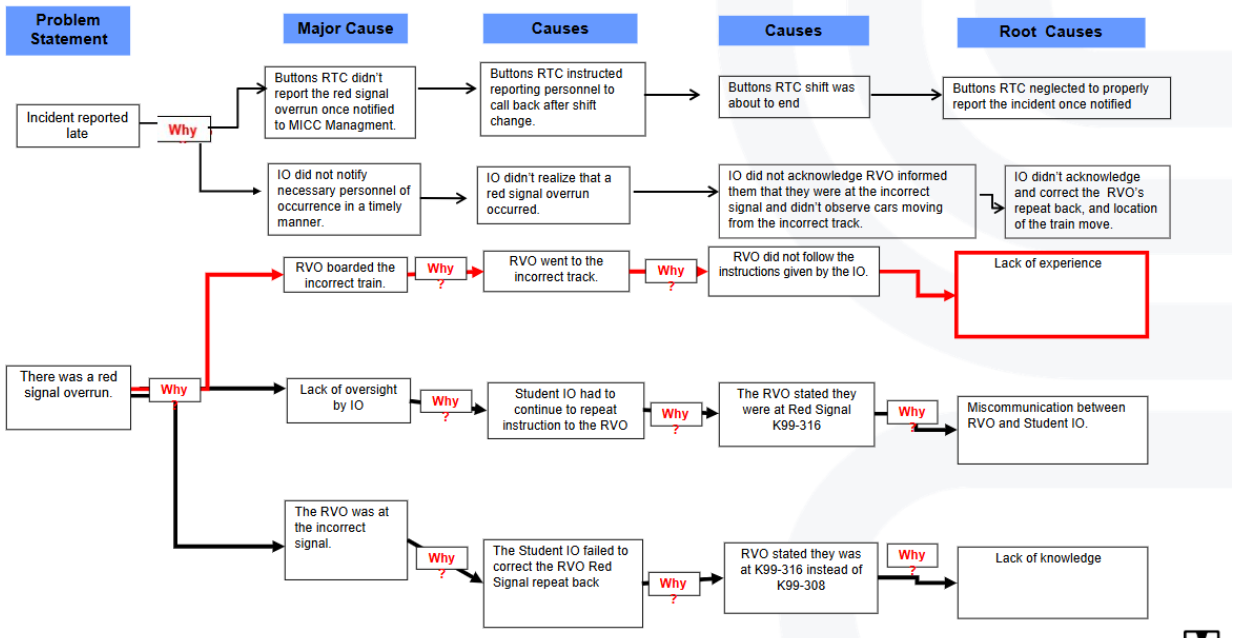
RECORDED EVENT DATA

TIME	LOCATION	STATUS/ CONTROL	DESCRIPTION	COMMENTS
7:36:49	K99	N/A	Os-313 occupied	Switch 313 is locked in Normal position. Os-313 is showing occupied.
7:37:08	K99	N/A	Trk-s20bt is indicating unoccupied	Non-revenue Train cleared track S20BT, passed signal 316, forced Switch 313 from Normal to OOC.
	K99	N/A	SW-313 has moved unexpectedly	
	K99	N/A	SW-313 is indicating gapped	
	K99	N/A	SW-313 is OOC without being controlled	
7:37:29	K99	N/A	SW-313 state has changed to OOC	Switch 313 was forced to Reverse position and trailed.
	K99	N/A	SW-313 is indicating reverse	
	K99	N/A	SW-313 has moved unexpectedly	
	K99	N/A	SW-313 is trailed	
7:37:31	K99	N/A	Trk-308t in indicating occupied	Non-revenue Train passed Signal 306 and occupied Trk-308t. Os-313 is now showing unoccupied.
7:37:35	K99	N/A	Trk-308t traffic is controlled locked left	
7:38:18	K99	N/A	Os-313 is unoccupied	

Original: 02/28/2025

Signal Engineering Incident Analysis 0.0
Page **3** of **4**
Incident Analysis Report-K99 dv0.0-022825

Appendix E – Why-Tree Analysis



Root Cause Analysis

E25252 – Red Signal Overrun – West Falls Church Yard 6