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W-0368 – Employee Injury at West Falls Church Rail Yard – March 8, 2024

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 May 13, 2025.

WMSC staff recommend adoption of this investigation.

Safety event summary:

At approximately 8:40 a.m., on March 8, 2024, an Automatic Train Control Maintenance (ATCM) Mechanic sustained injuries to their right hand while conducting routine maintenance activities on switch 315 at West Falls Church Rail Yard. This injury resulted in permanent disfigurement to the ATCM personnel's right hand.

At the time of this incident, a four person ATCM crew was conducting preventative maintenance inspections in support of switch tie replacement at switch 315 at West Falls Church Rail Yard under Local Signal Control. Local Signal Control is a form of roadway worker protection that grants full control of the signals immediately adjacent to the work location to the ATCM crew. In a yard setting this is accomplished through signal control from the yard control tower. This Local Signal Control then allows the ATCM crew to control all rail vehicle movement in this area through the signals and switches under their authority.

At 8:20 a.m., the Roadway Worker in Charge (RWIC) received permission to access the yard tracks at switch 315. The RWIC assigned one of the ATCM crew to the Tower (Tower Mechanic). While in the Yard Tower, the Tower Mechanic asked the Interlocking Operator in the Tower to demonstrate the routing of a switch – operating a switch thereby controlling the direction of movement of any rail vehicles that pass over that switch after such a routing of a switch. At 8:39 a.m., while conducting the demonstration, the Interlocking Operator used the switch the ATCM crew was actively conducting preventative maintenance activities on, switch 315. The switch point at switch 315 moved to the command of the interlocking operator, while one of the ATCM crew were clearing ballast out of the switch heater in the switch area. The switch point trapped this ATCM crew's right hand between the switch point and the running rail, seriously injuring the right hand.

At 8:45 a.m., five minutes after the injury occurred, the RWIC instructed the Interlocking Operator to request medical assistance. At 8:47 a.m., the Interlocking Operator notified the Buttons Rail Traffic Controller in the Control Center that medical assistance was requested by the RWIC. During this time the Interlocking Operator also contacted the Assistant Operations Manager, who instructed the Interlocking Operator to call 911 directly for medical assistance and to notify the

Information Controller in the Control Center. The Interlocking Operator attempted to dial 911 but was unable to dial the external number from the Tower console phone. Seeking assistance, the West Falls Church Rail Yard Interlocking Operator contacted the Dulles Rail Yard Interlocking Operator, who advised them to call the Rail Operations Infromation Center and request an Information Controller contact 911. The Information Controller was advised of the incident at 8:50 a.m., however it was not until the Fire Liaison Officer in the Control Center contacted Fairfax County Fire and Rescue Services at 9:04 a.m., that medical assistance was dispatched.

At 9:17 a.m., over 30 minutes after the incident occurred, the injured ATCM crew was transported by fire department personnel for further medical assistance at a local hospital.

Cause and contributing factors include:

- Lack of supervisory oversight and clear communication between the RWIC and the crew under their protection, prior to accessing the yard tracks
- Failure by the RWIC to isolate the switch mechanically and electrically to prevent switch operations while the ATCM crew was working in the switch
- Lack of training and supervisory oversight to ensure the ATCM Mechanic assigned to the yard tower was trained in the digital layout and operation of digital control panel in the yard tower
- The lack of communication between the interlocking operator and the RWIC prior to the interlocking operator exercising the switch 315 also contributed further to the cause of the event

Actions taken by Metrorail to prevent recurrence of this incident:

- Metrorail's Rail Transportation and Automatic Train Control Maintenance departments issued lessons learned to their respective personnel in reference to this incident
- All Metrorail's ATCM department personnel were provided with familiarization training in the use of interlocking Tower digital panels
- Metrorail procedures require that prior to conducting any inspection or maintenance activities on rail switches, this equipment is to be electrically and mechanically isolated to prevent operations while personnel are performing the work.

WMSC staff observations

Six months after this incident, Metrorail completed the implementation of corrective actions, through CAP C-0181, to address a 2021 WMSC finding in the Audit of Rail Operations. The finding stated that elements of Metrorail have a culture that accepts noncompliance with written operational rules, instructions and provided manuals. To address this finding Metrorail implemented its new Safety Management System for the Office of Rail Operations. This included new procedures and training for all personnel within Rail Operations on the common issues and safety-related violations and risks, a new safety risk submission tool, and a new dashboard for tracking risks and instituting mitigation by various safety committees throughout

Metrorail. The WMSC monitors Metrorail's actions on an ongoing basis through the review of these CAPs during our audit, inspection, and other oversight activities. As an example, the culture of noncompliance finding that resulted in CAP C-0181, that was closed in September 2024, was examined during the 2024 Control Center and Rail Operations audit, which will be issued in the coming months.

In the 2024 Roadway Worker Protection program audit the WMSC found that Metrorail is not effectively ensuring that its personnel on and around the roadway are consistently following the Roadway Worker Protection rules designed for their safety. The WMSC has approved a Metrorail corrective action plan that implements amongst other corrections, a formalized, data driven Roadway Worker Protection rules compliance and monitoring program. This CAP, C-0280 will be fully implemented in August 2026.

Lastly, in 2024 the WMSC Audit of Metrorail Automatic train control system found that ATCM personnel do not have a uniform understanding of Metrorail procedures that govern their work. Metrorail is currently working on implementing corrections to address this finding including ensuring supervisory activities to confirm ATCM personnel are knowledgeable about the procedures and that ATCM personnel are performing work adhering to these procedures. This CAP, C-0252, will be fully implemented in December 2026.

Washington Metropolitan Area Transit Authority
Department of Safety (SAFE)
Office of Safety Investigations (OSI)

FINAL REPORT OF INVESTIGATION A&I E24178

Date of Event:	March 8, 2024
Type of Event:	Employee Injury
Incident Time:	08:40 Hours
Location:	West Falls Church Yard – Switch 315
Time and How received by SAFE:	08:58 Hours – SAFE/MAC
WMSC Notification Time:	08:58 Hours
Responding Safety Officers:	None
Rail Vehicle:	None
Injuries:	Permanent disfigurement, right hand.
Damage:	None
Emergency Responders:	Arlington County Fire Department (ACFD)
SMS I/A Number	20240308#115300

Table of Contents

Abbreviations and Acronyms

ACFD	Arlington County Fire Department
AIMS	Advanced Information Management System
AOM	Assistant Operations Manager
ARS	Audio Recording System
CCTV	Closed-Circuit Television
CM	Chain Marker
ERT	Emergency Response Team
FCFRD	Fairfax County Fire and Rescue Department
MICC	Metro Integrated Command and Communications Center
MOR	Metrorail Operating Rulebook
MTPD	Metro Transit Police Department
NOAA	National Oceanic and Atmospheric Administration
OM	Operations Manager
PMI	Preventative Maintenance Inspection
RTC	Rail Traffic Controller
RTRA	Office of Rail Transportation
SAFE	Department of Safety
SMS	Safety Measurement System
TRST	Office of Track and Structures
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, March 8, 2024, at 08:40 hours, an Automatic Train Control Maintenance (ATCM) Mechanic was injured while performing switch maintenance at Switch 315 at West Falls Church Yard.

The Signaling Maintenance team of four personnel was supporting switch tie replacement work by conducting a Preventative Maintenance Inspection (PMI) at Switch 315 and was utilizing Local Signal Control for protection while performing their duties.

Prior to the event, the ATCM Tower Mechanic was in the Tower with the Interlocking Operator when they requested that the Interlocking Operator demonstrate how to route a switch. During the explanation, the Interlocking Operator physically demonstrated the process and exercised Switch 315, where the ATCM work crew were located which caused the switch to close.

The injured ATCM Mechanic was adjusting the crib heater at Switch 315 when their index and middle fingers on their right hand were injured when the switch moved, pinning their fingers between the switch-point and running rail.

The work crew attempted to render aid to the injured employee and notified the Tower and ATCM Supervisor of the incident. The Interlocking Operator notified the Metro Integrated Command Center (MICC).

At 09:06 hours, the Fire Liaison Officer (FLO) advised the Fairfax County Fire and Rescue Service (FCFRS) Call-Taker of the incident and requested an ambulance to the east side of West Falls Church Yard. The injured employee was transported to Virginia Hospital Center by a medical unit assigned to the Arlington County Fire Department (ACFD).

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 RTC dispatched a Rail Supervisor to relieve the Interlocking Operator from duty for post-incident testing.

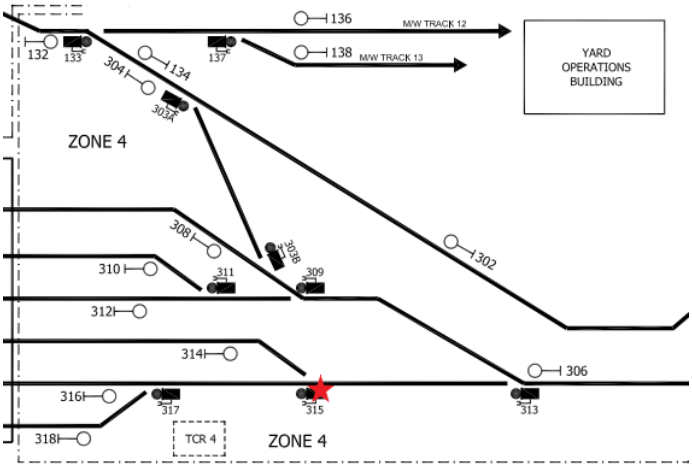
The injured employee suffered permanent disfigurement to two fingers on their right hand.

The probable cause of the Employe Injury event on March 8, 2024, at West Falls Church Yard was a lack of communication by the Interlocking Operator when they did not inform the ATCM personnel to stand clear before exercising the switch. An additional contributing factor was the ATCM RWIC's failure to mechanically or electrically lock the switch prior to conducting maintenance, as well as the ATCM Mechanic in the tower was not trained on how to use a digital Interlocking Board.

Incident Site

West Falls Church Yard, Switch 315

Field Sketch/Schematics



The above depiction is not to scale.

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

The investigative methodologies included the following:

- Site Assessment through document review

- Formal Interviews – SAFE interviewed 4 individuals as part of this investigation. 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). SAFE interviewed the following individuals:

    - ATCM Tower Mechanic
    - ATCM Witness Mechanic
    - RTRA Interlocking Operator
    - ATCM Roadway Worker In Charge (RWIC)

- Documentation Review – Collection of relevant work history information and process documentation contained in WMATA systems of record. These records include:
    - Interlocking Operator Training Records
    - Interlocking Operator Certifications
    - Interlocking Operator 30-Day work history review
    - ATCM Witness Statements
    - ATCM Incident Report
    - Metrorail Safety Rules and Procedures Handbook (MSRPH)
    - National Oceanic and Atmospheric Administration (NOAA)
    - Maximo Data

- System Data Recording Review – Collection of information contained in Metro Data Recording Systems. This data includes:

- ARS (Audio Recording System) playback [Radio and Landline Communications]
- The Office of Chief Mechanical Officer (CMOR) Incident Investigation Team (IIT) Vehicle Monitoring and Diagnostic System (VMDS)
- Closed-Circuit Television (CCTV)

Investigation

On Friday, March 8, 2024, at 08:40 hours, an ATCM Mechanic was injured while performing switch maintenance at Switch 315 at West Falls Church Yard.

The Signaling Maintenance team of four personnel was supporting switch tie replacement work at Switch 315 and was utilizing Local Signal Control for protection while performing their duties.

Image 1: West Falls Church Yard Switch 315

The Audio Recording System (ARS) revealed that prior to the event, at 08:20 hours, the ATCM Roadway Worker in Charge (RWIC) requested permission to enter the roadway at West Falls Church Yard under Local Signal Control Protection with a crew of three.

At 08:39 hours, it was determined that the ATCM Tower Mechanic who was assigned to the tower by the RWIC inquired of the Interlocking Operator that they show them how to route a switch. During the explanation, the Interlocking Operator began to physically demonstrate the process and exercised Switch 315, which caused the switch to close.

At 08:40 hours, the Closed-Circuit Television (CCTV) determined that an ATCM Mechanic, who was adjusting the crib heater at Switch 315, injured their index and middle fingers on their right hand when the switch moved, pinning their fingers between the switch-point and running rail.

Image 2: ATCM work crew, render aid to the ATCM Mechanic behind the white, temporary structure at 08:40 hours.

At 08:45 hours, the ATCM RWIC requested that the Interlocking Operator call an ambulance to the scene. At 08:48 hours, the Interlocking Operator advised the Button Rail Traffic Controller (RTC) that the ATCM RWIC requested an ambulance to the scene. The Button RTC advised that they would advise personnel at the MICC. The Interlocking Operator then requested the ATCM RWIC call them via landline.

At 08:48 hours, the Interlocking Operator advised the Assistant Operations Manager (AOM) that the ATCM RWIC had requested an ambulance to the scene. The AOM advised the Interlocking Operator to call for an ambulance and advised the Communications Section of the information.

At 08:49 hours, the Interlocking Operator contacted Dulles Yard Interlocking Operator and advised that they attempted to dial 911 to negative effect. The Dulles Yard Interlocking Operator advised to contact the MICC in order to dispatch medical.

At 08:50 hours, the Interlocking Operator advised the Communication Section that an ATCM Mechanic had injured their fingers within West Falls Church Yard and required an ambulance. At 08:53 hours, the Interlocking Operator advised the Information Controller that the ATCM Mechanic was located on the east side of West Falls Church Yard. At 08:56 hours, the Interlocking Operator advised the RTRA Superintendent of the of incident.

At 08:58 hours, the AOM advised the Interlocking Operator to complete an incident report in reference to the incident. The Interlocking Operator stated they were responsible for operating the switch after demonstrating to the ATCM Tower Mechanic how to perform the operation.

At 09:04 hours, the FLO advised the FCFRS Call-Taker of the incident, who stated that no call for service had been dispatched for the area of the incident. The FLO advised the Call-Taker they would confirm with the MICC, and at 09:06 hours, the FLO advised the Call-Taker of the incident and requested dispatch of an ambulance to the east side of West Falls Church Yard.

At 09:17 hours, a medical unit from the Arlington County Fire Department arrived on the scene and attended the injured ATCM Mechanic.

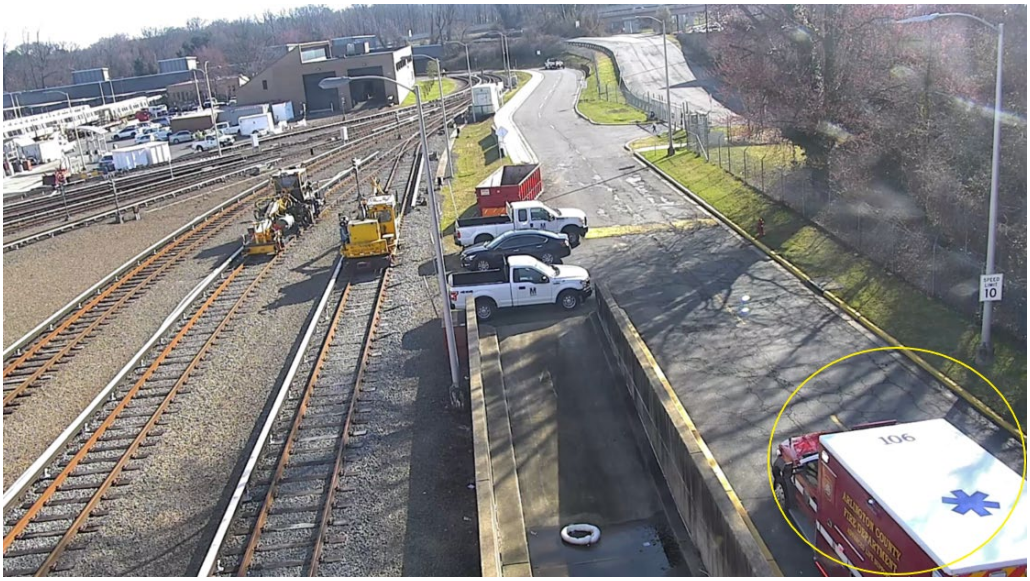


Image 3: Arlington County Fire Department Ambulance arrived on the scene at 09:17 hours.

The injured employee was transported to Virginia Hospital Center by a medical unit assigned to the Arlington County Fire Department (ACFD).

Chronological Event Timeline

Time	Description
08:20:29 hours	ATCM RWIC: Requested permission to enter the roadway at K99 under Local Signal Control Protection with a crew of three. Interlocking Operator: Acknowledged and advised that the third rail would remain energized. ATCM RWIC: Acknowledged. [Ambient, K99 Tower]
08:39:48 hours	ATCM Tower Mechanic: Asked the Interlocking Operator how to set a lead on the Interlocking Board. Interlocking Operator: Answered, and began showing the ATCM Mechanic the process.. [Ambient, K99 Tower]
08:40:02 hours	The ATCM Mechanic was injured while performing maintenance on Switch 315. [CCTV]
08:45:32 hours	ATCM RWIC: Requested an ambulance to their location for an injured employee. Interlocking Operator: Acknowledged. [Radio, FC Yard 1]
08:47:18 hours	Interlocking Operator: Advised the Button RTC that the ATCM team had requested an ambulance at West Falls Church Yard. Buttons RTC: Acknowledged. [Phone, K99 Tower]
08:47:41 hours	Interlocking Operator: Requested the RWIC give them a landline. ATCM RWIC: Acknowledged. [Radio, FC Yard 1]
08:48:16 hours	Interlocking Operator: Advised the AOM that the ATCM team had requested an ambulance to West Falls Church Yard and that they were about to call for medical assistance.

	AOM: Acknowledged. Advised the Interlocking Operator to call for the ambulance and relay information to the ROIC once available. [Phone, K99 Tower]
08:49:54 hours	Interlocking Operator: Advised the Interlocking Operator of Dulles Yard that they attempted to dial 911 however, it would not work. Dulles Interlocking Operator: Advised to contact the ROIC to dispatch medical. [Phone, K99 Tower]
08:50:37 hours	Interlocking Operator: Advised the Information Controller that an ATCM Mechanic had injured their fingers within West Falls Church Yard and required an ambulance. Information Controller: Acknowledged. Inquired what was wrong. Interlocking Operator: Advised they hurt two of their fingers on a switch being thrown. Information Controller: Hurt two fingers. Interlocking Operator: Replied, yes broke two fingers. Information Controller: Asked for the Interlocking operator's name and phone number. [Phone, K99 Tower]
08:53:51 hours	Information Controller: Requested the location of the injured ATCM Mechanic. Interlocking Operator: Advised the injured ATCM Mechanic was on the east side of the yard. Information Controller: Acknowledged. [Phone, K99 Tower]
08:56:56 hours	Interlocking Operator: Advised the West Falls Church RTRA Superintendent of the incident. WFC Superintendent: Acknowledged. [Phone, K99 Tower]
08:58:33 hours	AOM: Advised the Interlocking Operator to complete an incident report in reference to the incident. Interlocking Operator: Advised the AOM that they had operated the switch when demonstrating to the ATCM Tower Mechanic how to perform the operation. [Phone, K99 Tower]
09:04:08 hours	FLO: Advised the Call-Taker of the incident. FCFRS Call-Taker: Advised that they had not received a call for West Falls Church Yard. FLO: Acknowledged. Will confirm. [Phone, FLO]
09:05:08 hours	ATCM Supervisor: Advised the Information Controller of the incident and further advised that an ambulance was en route to the scene. Information Controller: Acknowledged. [Phone, ROIC]
09:06:31 hours	FLO: Advised the Call-Taker of the incident. FCFRS Call-Taker: Acknowledged. [Phone, FLO]
09:17:54 hours	Arlington County Fire Department Medics arrived on the scene. [CCTV]

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

Automatic Train Control (ATCM)

The ATCM Supervisor's report articulated that preventative maintenance was being performed on Switch 315 in the West Falls Church Rail Yard at the time of the incident. The report further

articulated that communication between the Interlocking Operator and the Tower Mechanic was the cause of the incident.

The report also articulated that Switch 315 was never mechanically or electrically disabled prior to allowing work to be permitted in the designated work area. Further liaison with ATCM Management confirmed this is the responsibility of the team performing the maintenance.

Further consultation with ATCM executives confirmed this and further determined that the injuries sustained by the Injured employee required surgical consult and resulted in permanent, minor disfigurement.

Office of Rail Transportation (RTRA)
Adopted from RTRA report:

The RTRA Investigation determined that just prior to the incident, the Tower Mechanic asked the Interlocking Operator to demonstrate how to throw switch 315. Instead of demonstrating, the Interlocking Operator exercised Switch 315 from normal to reverse.

Interview Findings

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

Interlocking Operator Formal Interview

- The Interlocking Operator stated that the Tower Operator did not know how to operate the panel. The Interlocking Operator stated the Tower Operator asked them how to set a lead for Switch 315.
- The Interlocking Operator stated they interpreted this request as to set the lead for them and so exercised the switch at that time. The Interlocking Operator stated approximately 5 mins later, the RWIC advised them of the incident.
- The Interlocking Operator stated they then contacted the MICC and advised them of the incident after being unable to dial out 911 from the tower.

ATCM RWIC

- The RWIC stated that at approximately 08:20 hours, they requested permission to go wayside into West Falls Church Rail Yard to perform preventative maintenance on Switch 315 using Local Signal Protection.
- The RWIC stated they disabled Switch 315 the day prior to the incident. The RWIC stated they pulled the fuses within the control room in order to disable Switch 315.
- The RWIC stated they were assigned was assigned as a RWIC for a PMI for Switch 315.
- The RWIC stated they placed the fuses back into the equipment at approximately 08:30 hours causing it to become active. The RWIC stated Switch 315 was not mechanically disabled at this point in order to allow function of the equipment for the PMI.
- The RWIC stated they had commenced the PMI when Switch 315 threw without notification from the Interlocking Operator.
- The RWIC stated they contacted the Tower for an ambulance.
- The RWIC stated they were aware that the injured employee was within the roadway, attempting to remove ballast from Switch 315.

- The RWIC stated they relied solely upon the ATCM Tower Mechanic in order to protect their team within the roadway.

Tower Mechanic

- The Tower Mechanic stated that at the time of the incident they were positioned within the tower of West Falls Church Yard, as part of the Local Signal Control protection overlooking the yard.
- The Tower Mechanic stated that they were responsible for routing switches during the protection established in the yard.
- The Tower Mechanic stated they were unfamiliar with the digital layout of the panel and how to operate it and inquired with the interlocking operator to demonstrate how to move switches on the digital panel. The Tower Mechanic stated that the Interlocking Operator then moved the switch in real-time.
- The Tower Mechanic stated they did not advise the RWIC that they were unfamiliar with the panel.
- The Tower Mechanic stated they had no training on the digital panel.
- The Tower Mechanic's written statement confirmed the above.

Witness Mechanic

- The Witness Mechanic stated that at the time of the incident, they were assigned to assist with switch maintenance.
- The Witness Mechanic stated they were working on the far side of the switch at the time of the incident, and the Injured employee was working on the near side of the incident.
- The Witness Mechanic stated they did not observe the Injured employee sustain their injury; however, they were there for the aftermath.
- The Witness Mechanic stated they were familiar with the digital panel controls; however, they had received no formal training on the digital panel.
- The Witness Mechanic's written statement confirmed the above.

Weather

On March 8, 2024, at the time of the incident, NOAA recorded the temperature as 54°F, with minor cloud cover, winds averaging 10.1 mph, and 71% humidity. Weather was not a contributing factor in this incident (Weather source: NOAA) – Location: West Falls Church, VA.

Related Rules and Procedures

- MOR 1.20 – Injuries on WMATA Property

Human Factors

Signs and Symptoms of Fatigue

OSI evaluated conditions at the time of the incident to distinguish whether evidence of fatigue was present. No video of the Interlocking Operator was available. The Interlocking Operator reported feeling fully alert at the time of the incident. The Interlocking Operator reported experiencing no symptoms of fatigue in the time leading up to the incident.

Fatigue Risk

OSI evaluated incident data for fatigue risk factors. Risk factors for fatigue were not present. The incident time of day did not suggest an increased risk of fatigue-related impairment. The Interlocking Operator reported keeping a regular sleep schedule in the days leading up to the incident.

The Interlocking Operator performed morning work in the days leading up to the incident. The Interlocking Operator was awake for 3.916 hours at the time of the incident. The Interlocking Operator reported 9.25 hours of sleep in the 24 hours preceding the incident. The off-duty period was 12 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 Interlocking Operator complied with the Drug and Alcohol Policy and Testing Program 7.7.3/6.

Findings

- The Tower Mechanic was positioned in the Tower with the Interlocking Operator as part of the Local Signal Control protection of the crew in the yard.
- The Tower Mechanic was unfamiliar with the layout of the digital panel and requested instruction from the Interlocking Operator on how to exercise the switch.
- The Interlocking Operator interpreted this as a request to exercise the switch and did so.
- The Interlocking Operator did not advise the work crew to stand clear of the switchpoint prior to exercising the switch.
- The ATCM RWIC failed to follow procedure by establishing prohibits which would lock Switch 315 in the event it was accidentally exercised remotely.
- There was a delay in medical treatment for the injured employee caused by the inaction of the Interlocking Operator

Immediate Mitigation to Prevent Recurrence

- The Interlocking Operator and Tower Mechanic were removed from service.
- Emergency services were requested.
- ATCM reinstructed personnel on: Job Safety Briefing Form: review scheduled work prior to entering the roadway to include the level of protection within the associated work area.
- ATCM reinstructed personnel on: Disable switch operating circuitry prior to performing any work.
- ATCM reinstructed personnel on: Utilize switch point clamp to prevent unexpected switch movement.
- The Interlocking Operator was placed back into a Train Operator role after their suspension was concluded.

Probable Cause Statement

The probable cause of the Employe Injury event on March 8, 2024, at West Falls Church Yard was a lack of communication by the Interlocking Operator when they did not inform the ATCM personnel to stand clear before exercising the switch. An additional contributing factor was the

ATCM RWIC's failure to mechanically or electrically lock the switch prior to conducting maintenance, as well as the ATCM Mechanic in the tower was not trained on how to use a digital Interlocking Board .

Recommended Corrective Actions

Corrective Action Code	Description	Responsible Party	Estimated Completion Date
115300_SAFECAPS_RTRA_001	Issue Lessons Learned in reference to the incident.	RTRA	Completed
115300_SAFECAPS_ATCM_001	Issue Lessons Learned in reference to the incident.	ATCM	Completed
115300_SAFECAPS_ATCM_002	Issue Retraining/Re-instruction for the ATCM Team involved.	ATCM	Completed
115300_SAFECAPS_ATCM_003	Provide familiarization training on Interlocking Tower Digital Panels for all ATCM personnel.	ATCM	Completed

Drafted By: SAFE 705 – 05/07/2024
Reviewed By: SAFE 702 – 05/07/2024
Approved By: SAFE 707 – 05/07/2024

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.

RTRA
Interlocking Operator Interview

The Interlocking Operator is a WMATA employee with 18 years of service, 2 of which have been spent as an Interlocking Operator. The Interlocking Operator holds an RWP Level 2 certification that expires in June 2024.

The Interlocking Operator stated that prior to the incident they had conducted a couple of train movements within the yard when the Tower Mechanic came up to the Tower as part of the Local Signal Control. The Interlocking Operator stated they then gave the ATCM RWIC permission to enter the roadway to conduct the maintenance of Switch 315.

The Interlocking Operator stated that the Tower Operator did not know how to operate the panel. The Interlocking Operator stated the Tower Operator asked them how to set a lead for Switch 315.

The Interlocking Operator stated they interpreted this request as to set the lead for them and so exercised the switch at that time. The Interlocking Operator stated approximately 5 mins later, the RWIC advised them of the incident.

The Interlocking Operator stated they then contacted the MICC and advised them of the incident after being unable to dial out 911 from the tower.

The Interlocking Operator was removed from service for post-incident testing.

ATCM
RWIC

The ATCM RWIC is a WMATA employee with 12 years of service, all of which has been spent as an ATCM Mechanic. The RWIC holds an RWP Level 4 certification that expires on January 2025.

The RWIC stated they disabled Switch 315 the day prior to the incident. The RWIC stated they pulled the fuses within the control room in order to disable Switch 315.

The RWIC stated they were assigned was assigned as a RWIC for a PMI for Switch 315.

The RWIC stated they placed the fuses back into the equipment at approximately 08:30 hours causing it to become active. The RWIC stated Switch 315 was not mechanically disabled at this point in order to allow function of the equipment for the PMI.

The RWIC stated they were aware that the injured employee was within the roadway, attempting to remove ballast from Switch 315.

The RWIC stated they relied solely upon the ATCM Tower Mechanic in order to protect their team within the roadway.

Tower Mechanic Interview

The Tower Mechanic is a WMATA employee with 14 years of service, 11 of which has been spent as an ATCM Mechanic. The Tower Mechanic holds an RWP Level 4 certification that expires in July 2024.

The Tower Mechanic stated that at the time of the incident, they were positioned within the tower of West Falls Church Yard, as part of the Local Signal Control protection overlooking the yard. The Tower Mechanic stated that they were responsible for routing switches during the protection established in the yard.

The Tower Mechanic stated they were unfamiliar with the digital layout of the panel and how to operate it and inquired with the interlocking operator to demonstrate how to move switches on the digital panel. The Tower Mechanic stated that the Interlocking Operator then moved the switch in real-time.

The Tower Mechanic stated they did not advise the RWIC that they were unfamiliar with the panel. The Tower Mechanic stated they had no training on the digital panel.

The Tower Mechanic stated they were removed from service; however, they were not post-incident tested.

Witness Mechanic Interview

The Witness Mechanic is a WMATA employee with 17 years of service, 11 of which has been spent as an ATCM Mechanic. The Witness Mechanic holds an RWP Level 4 certification that expires in December 2024.

The Witness Mechanic stated that at the time of the incident, they were assigned to assist with switch maintenance. The Witness Mechanic stated they were working on the far side of the switch at the time of the incident, and the Injured employee was working on the near side of the incident.

The Witness Mechanic stated they did not observe the Injured employee sustain their injury; however, they were there for the aftermath.

The Witness Mechanic stated they were familiar with the digital panel controls; however, they had received no formal training on the digital panel.

Appendix B – ATCM Documentation

Assigned Supervisors and Technicians			Shift	Absence Code	Check In	Check Out	Check In Location	Crew Assigned Vehicle Number	Assignment
Supervisor Name:	ID:	CONTACT:							
[redacted]		[redacted]			6:30 AM		3421-A	23051	K99 TRACK SUPPORT
Techs Classification	Call Number	Technicians' Name							
A	[redacted]	[redacted]	DAY		6:00 AM				K99 TRACK SUPPORT
B	[redacted]	[redacted]	DAY		6:00 AM			23048	K99 TRACK SUPPORT
C	[redacted]	[redacted]	DAY		6:00 AM				K99 TRACK SUPPORT
C	[redacted]	[redacted]	DAY		6:00 AM				K99 TRACK SUPPORT
D	[redacted]	[redacted]	DAY	S					SICK

Today, our team reported to K99 yard and continued to support the Track department by finalizing tie replacement on the switch 315 layout and turnout. As personnel were preparing to begin PMI on switch 315, there was a miscommunication between ATC[redacted] and the tower operator. This miscommunication led the tower operator to operate switch 315 while ATC[redacted] was working near the switchpoint, resulting in two fingers on his right hand being caught between the switchpoint and the rail. ATC[redacted] was transported to Virginia Hospital Center by ambulance for medical attention. For now, switch 315 is clamped, and work will resume on Monday."

Document 1: ATCM Supervisor's Report Page 1 of 1

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 ☑
02/08/2024	Around 8.35am	8.40 am to Tower [redacted]	ROCC ☐ Other ☐

Location

Station	Mezzanine #	Track #/Destination	Chain Marker/Signal Number
K99			

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.

Around 8.20 am, I requested Permission to go wayside with the crew (3) to perform Sw. 315 Pmi. We are using local signal for our protection ATC [redacted] is on the Panel. Before we start the Pmi we need to fix the Snow melter (crib heaters). While we were performing the job the Switch 315 threw without notification us wayside. ATC [redacted] was injured in his fingers. I Contactes Tower for the ambulance and the bulance showed up around 9.05 am.

Employee Completing Report

Employee Name:(print)	Employee Signature:(sign)	Employee #:	Date:
[redacted]	[redacted]		03/08/2024

Division:	Run #	Block #	Assigned Days:

Document 2: ATCM RWIC's Written Statement Page 1 of 1

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

Incident Information: This page must be completed for all incidents

Date: 03/08/2024	Incident Time: 8:45AM	Time Reported:	Reported by: Customer ☐ Employee ☑ ROCC ☐ Other ☐ _____

Location

Station	Mezzanine #	Track #/Destination	Chain Marker/Signal Number
K99 yard			

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): 1

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.

About 8:45AM I was assigned to the panel K99 tower, the to throw the 315 switch for PMI. the panel is Un familiarized to me and to make awarness. I was asking Tower operator How to route Switch 315. the Tower operator Un fortunately route switch and My crew member [redacted] injured while moving Switch. the switch Can move by route Signal or by throw the switch. I familiarized throw the Switch digital System but I am not familiar with route switch with digital System. ~~I asked to activate route switch for~~ How to Walk

Employee Completing Report

Employee Name:(print)	Employee Signature:(sign)	Employee #:	Date:
[redacted]		[redacted]	03/08/24

Division:	Run #	Block #	Assigned Days:

Document 3: Tower Mechanic's Written Statement Page 1 of 1

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 ❑
03-08-24	8:35	[redacted]	

Location

Station	Mezzanine #	Track #/Destination	Chain Marker/Signal Number
K99			

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 ❑ K99 Yard

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.

we requist tower and get britied with ATC [redacted] ATC [redacted] went wayside for SW 315 PMI. ATC [redacted] went Tower to take over. Before we start the SW PMI. we start work on snow melter wire connections. while we are workiy on it (snow meter). without any notification SW 315 thrown. AK2147 and ATC [redacted] were workiy. taking me near side 7 switch. ATC [redacted] fingers injured and pinched as soon as the incident happen we cleal from wayside and contact tower and call ambulance. per Tower.

Employee Completing Report

Employee Name:(print)	Employee Signature:(sign)	Employee #:	Date:
[redacted]		[redacted]	03-08-24

Division:	Run #	Block #	Assigned Days:
3			M-F

Document 4: Witness Mechanic's Written Statement Page 1 of 1

Appendix C – RTRA Documentation

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 ❑
3/8/24	8:47	8:48	

Location

Station	Mezzanine #	Track #/Destination	Chain Marker/Signal Number
WFC	N/A	10	N/A

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.

At 8:43am ATC [redacted] in the tower with me asked me How to set alead Switch 314 I showed him how at 8:47am ATC [redacted] call and said personnell hand was caught in the switch and they need medical I called Central at 8:48 and let them Krow And Tried to call 911 Wouldn't work so I call centrall again so they can dispatch the ambulance

Employee Completing Report

Employee Name:(print)	Employee Signature:(sign)	Employee #:	Date:
[redacted]		[redacted]	3/8/24

Division:	Run #	Block #	Assigned Days:
WFC	N B1		

Document 5: Interlocking Operator's Written Statement Page 1 of 1

Appendix D - Root Cause Analysis