



## **WMSC Commissioner Brief: W-0278 – W-081 Improper Roadway Worker Protection Events – January 2023**

*Prepared for Washington Metrorail Safety Commission meeting on May 14, 2024*

Metrorail's Roadway Worker Protection Program is designed to protect employees, contractors and, in emergencies, first responders and customers while they are on and around the tracks.

In 2023, Metrorail reported 51 improper roadway worker protection (RWP) safety events to the WMSC. These events included personnel entering the roadway without permission and without the proper protection, and improper use of watchmen/lookouts. The investigation reports attached are four final reports related to some of the events that occurred in January 2023, each of which are now ready for consideration by the Commissioners.

The WMSC is finalizing the draft report of our audit on Metrorail's Roadway Worker Protection Program that began in 2023 and continued into early 2024.

Metrorail currently has related open CAP C-0181 addressing the finding that elements of Metrorail have a culture that accepts noncompliance with written operational rules, instructions, and manuals. (Expected completion date October 2024). Metrorail has revised its Safety Management System related to Rail Operations. This has included implementing new methods of hazard and risk reporting, training of personnel on reporting and implementation of a new data collection system for those issues so they can be properly evaluated and addressed. The WMSC is currently reviewing this CAP to ensure the deliverables and intended outcomes of this CAP have been met.

Investigations W-0278-W-0292 being considered at the May 14, 2024, meeting led to specific corrective actions including:

- Metrorail is conducting an ongoing safety campaign that requires Rail supervisors to conduct job briefings and train operation check rides with Train Operators, specifically related to RWP adherence, which must be documented.
- A safety bulletin issued on January 13, 2023, regarding improper RWP events, advanced mobile flagging procedures, and foul time requirements.
- Another safety bulletin issued on February 8, 2023, in relation to events on January 16 ([W-0264](#)) and January 29, 2023 (below), communicating the differences between direction from Power Desk Controllers and Rail Traffic Controllers, and associated adjustments to Power Desk Controller communications that emphasize the need for protection to be requested from and granted by the Rail Traffic Controller.
- Safety briefings for personnel on the importance of RWP awareness
- Metrorail reinforced the importance of reviewing the site conditions during the Job Safety Briefing to include track access right with work crews.
- A safety bulletin issued highlighting the proper method to retrieve items in close proximity of the third rail and the required PPE.
- Retraining on radio communications procedures and RWP requirements.

**Safety event summaries:**



**W-0278 – Entering Roadway Without Permission/Protection – Columbia Heights Station – January 11, 2023 (WMATA ID: E23024)**

On Wednesday, January 11, 2023 a Traction Power Maintenance Roadway Worker In Charge (RWIC) and their work crew accessed the roadway without required permission or protection against collision. The RWIC contacted the Rail Operations Control Center (ROCC) via radio to request foul time to access a Tie Breaker Station near Columbia Heights Station to perform an inspection. The Radio Rail Traffic Controller directed the RWIC to stand by while a train passed their location. However, the RWIC did not copy or repeat back the Controller's transmission correctly. Instead, the RWIC believed they had been granted foul time, and stated that on the radio. The RWIC and their work crew entered the roadway. Metrorail requires 100% repeat back of radio transmissions to ensure both parties correctly understand the communications. Neither the RWIC nor the Rail Traffic Controller identified the error until the RWIC notified the Controller that they were relinquishing foul time. The RWIC and Controller were removed from service for post-event toxicology testing, which did not identify any violations of Metrorail drug or alcohol requirements.

**Probable Cause:**

The probable cause of this event is non-compliance with radio communication protocols, and insufficient supervisory oversight to ensure compliance with such safety procedures.

**W-0279 – Train not stopped by AMF – Rockville Station – January 12, 2023 (WMATA ID: E23026)**

On January 12, 2023, an Advanced Mobile Flagger (AMF) positioned at the 8-car marker at Rockville Station did not adhere to Metrorail AMF Protection procedures regarding flagging and briefing train operators when personnel are on the roadway. An out-of-service train being operated by a trainee train operator, completing train operator certification activities being conducted by a Rail Transportation Quality Control Officer, continued through Rockville Station without stopping. A station stop at Rockville Station was not a part of the certification exercise. An AMF was standing on the platform near the 8-car marker, but did not flag the train to stop. Within two minutes, the train came upon a mobile work crew on the roadway inspecting track between Rockville and Twinbrook stations. The Quality Control Officer reported this improper roadway worker protection event to the Radio Rail Traffic Controller in the Rail Operations Control Center, as there had been no briefing from an advanced mobile flagger. The investigation identified that the Metrorail employee on the Rockville Station platform had been assigned as the work crew's advanced mobile flagger, but had not properly set up the required equipment to identify themselves as such. This included the employee not properly placing the required amber flashing lantern on the ground (instead placing it horizontally off the ground on the end gate) and not holding the required orange flag. The employee did not flag the train to stop as required, and did not report the train proceeding without a briefing as an emergency. Instead, the employee stated over the radio to the work crew, "train on the way." In an investigative interview, the employee stated that they did not report it as an emergency because the train was not travelling at full speed when it bypassed the station (Metrorail rules limit speed to 25 mph when bypassing a station). The employee had briefed a prior train that stopped at the station to service the station, as well as subsequent trains that were in service, but did not ensure that this out-of-service train that was bypassing the station stopped for the safety briefing as required. The safety briefing communicates to the Train Operator that there is a work crew ahead and that they must travel at reduced speed, among other actions that provide layers of protection for the work crew. A subsequent train operator, when asked by the Rail Traffic Controller, wrongly stated that the employee had all required



safety equipment. The investigation also identified that the Rail Traffic Controllers had not made required announcements to train operators of track personnel walking in the area.

**Probable Cause:**

The probable cause of this event is non-compliance with written operational rules and procedures.

**W-0280 – Between Rockville and Twinbrook stations – January 13, 2023 (WMATA ID: E23027)**

On January 13, 2023, an Automatic Train Control Maintenance crew moved through a “hot spot” area requiring Foul Time protection between Rockville and Twinbrook stations without requesting or receiving this protection required to safely traverse the restricted view curve. The work crew had not identified this hot spot, designated in Metrorail’s Track Access Guide, as required during the roadway job safety briefing. No member of the crew raised this safety issue. Rail Traffic Controllers identified when the crew reported reaching Rockville Station that the work crew had not requested or received this necessary roadway worker protection. No one was injured. In an investigative interview, the employee acting as the Roadway Worker In Charge stated they overlooked the hot spot in the access guide.

**Probable Cause:**

The probable cause of this event is a lack of supervisory oversight to ensure compliance with established procedures. Contributing to this event is personnel not independently validating the completeness of the roadway job safety briefing that they sign, and subsequently not identifying the designated hot spot while on the roadway.

**W-0281 – Stadium-Armory Station – January 29, 2023 (WMATA ID: E23067)**

A Traction Power Maintenance crew entered the roadway at Stadium-Armory Station without permission or protection against collision on January 29, 2023. Initially, the Roadway Worker In Charge requested supervisory (remote) power de-energization to set up a scheduled work zone on both tracks. Later, the Roadway Worker In Charge requested to extend the work zone by 300 feet, but the Power Desk Controller responded that they could not at that time. The Power Desk Controller subsequently provided the power outage tag (identification number) for the original segment. However, the work crew then entered the roadway and began setting up the work location without communicating with or receiving protection from the Rail Traffic Controllers. The Radio Rail Traffic Controller contacted the Roadway Worker In Charge approximately 13 minutes after the RWIC’s communication with the Power Desk, because the Rail Traffic Controller had observed indications on the Advanced Information Management (AIM) system display screen that shunts were being placed. The RWIC responded that they made a mistake by entering the roadway without protection. The investigation also identified confusion among the work crew related to the RWIC’s instructions to get in place, and whether that meant enter the roadway or simply to prepare to do so.

**Probable Cause:**

The probable cause of this event was inadequate work zone planning. Contributing to the improper entry to the roadway was incomplete and unclear communication, and Metrorail’s non-compliance with written operational rules and procedures.



Washington Metropolitan Area Transit Authority  
Department of Safety (SAFE)  
Office of Safety Investigations (OSI)  
**FINAL REPORT OF INVESTIGATION A&I E23024**

<b>Date of Event:</b>	January 11, 2023
<b>Type of Event:</b>	Improper Roadway Worker Protection (RWP)
<b>Incident Time:</b>	17:01 hours
<b>Location:</b>	Columbia Heights Station, Track 2
<b>Time and How received by SAFE:</b>	17:09 hours – SAFE/MAC
<b>WMSC Notification Time:</b>	17:57 hours
<b>Responding Safety Officers:</b>	WMATA: N/A WMSC: N/A Other: N/A
<b>Rail Vehicle:</b>	N/A
<b>Injuries:</b>	None
<b>Damage:</b>	None
<b>SMS I/A Incident Number:</b>	20230111#105445

# Columbia Heights Station – Improper RWP

January 11, 2023

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## **Abbreviations and Acronyms**

<b>AIMS</b>	Advanced Information Management System
<b>AOM</b>	Assistant Operations Manager
<b>CAP</b>	Corrective Action Plan
<b>CCTV</b>	Closed-Circuit Television
<b>CMOR</b>	Office of the Chief Mechanical Officer
<b>COMR</b>	Office of Radio Communications
<b>MAC</b>	Mission Assurance Coordinator
<b>MSRPH</b>	Metrorail Safety Rules and Procedures Handbook
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>OM</b>	Operations Manger
<b>RTC</b>	Rail Traffic Controller
<b>RTRA</b>	Office of Rail Transportation
<b>ROCC</b>	Rail Operations Control Center
<b>RWIC</b>	Roadway Worker In-Charge
<b>SAFE</b>	Department of Safety
<b>SDOC</b>	Safety Director On-Call
<b>SMS</b>	Safety Measurement System
<b>WMATA</b>	Washington Metropolitan Area Transit Authority
<b>WMSC</b>	Washington Metrorail Safety Commission

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

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**Executive Summary**

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

On January 11, 2023, at 16:59 hours, a Traction Power Maintenance (TRPM) Roadway Worker In-Charge (RWIC) requested 20 seconds of foul time to walk to Tie Breaker Station E4 in order to conduct an inspection located between Chain Marker (CM) E2 106+00 and 105+00, located within the vicinity of Columbia Heights Station.

At 17:01 hours, the Radio Rail Traffic Controller (RTC) advised the RWIC to stand by while a train passed their location. The RWIC copied and advised they would advise the RTC when they were “in our location.” The mistaken repeat back was not identified by either party and the transmission ends.

At 17:02 hours, the RWIC advised they were in a position of safety and that they relinquished their foul time. This prompted the Radio RTC to request a landline. At 17:03 hours, the Radio RTC advised the RWIC foul time was not granted, and they advised the RWIC to standby while a train passed the RWIC’s location.

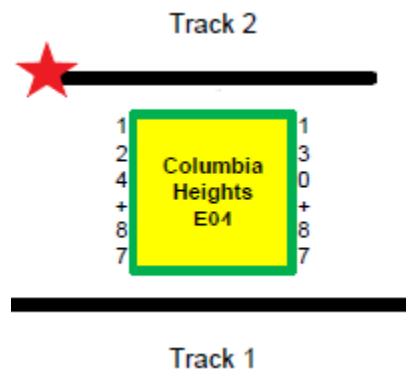
At 17:08 hours, Rail Operations Control Center (ROCC) Operations Manager (OM) contacted the Power Operations Desk Controller and advised them of the incident and further advised an investigation was ongoing due to a Power Unit accessing the Traction Power Room without foul time.

The probable cause of the Improper RWP event on January 11, 2023, was a human factors error in a failure to adhere to established procedures for 100 percent repeat back. This led to the RWIC entering the Tie Breaker Station without protections established.

**Incident Site**

Columbia Heights Station, Track 2 - Between E2 105+00 and E2 106+00

**Field Sketch/Schematics**



*The above depiction is not to scale. Incident site marked with a red star.*

## **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 two individuals as part of this investigation. The interviews 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:
  - TRPM RWIC
  - Radio RTC
  
- Documentation Review – Collection of relevant work history information and process documentation contained in WMATA systems of record. These records include:
  - Metrorail Safety Rules and Procedures Handbook (MSRPH)
  - National Oceanic and Atmospheric Administration (NOAA)
  - Rail Operations Control Center (ROCC) Incident Report
  - Maximo Data
  - TRPM incident report
  - TRPM witness statements
  - ROCC incident report
  
- System Data Recording Review – Collection of information contained in Metro Data Recording Systems. This data includes:
  - Audio Recording System (ARS) playback [Radio and Landline Communications]
  - Advance Information Management System (AIMS)



## Investigation

On January 11, 2023, at 16:59 hours, the RWIC requested 20 seconds of foul time to get to Tie Breaker Station E4 in order to conduct an inspection located between CM E2 106+00 and 105+00, located within the vicinity of Columbia Heights Station.

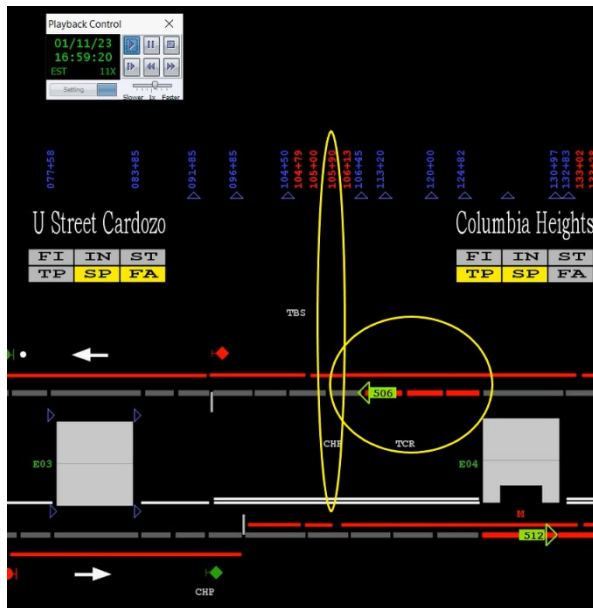


Figure 1: Train ID 506 can be observed within the area of the RWIC at 16:59 hours.

The Audio Recording System (ARS) revealed that at 17:01 hours, the Radio RTC advised the RWIC to standby while a train passed their location. The RWIC copied and advised they would advise the RTC when they were in the location.

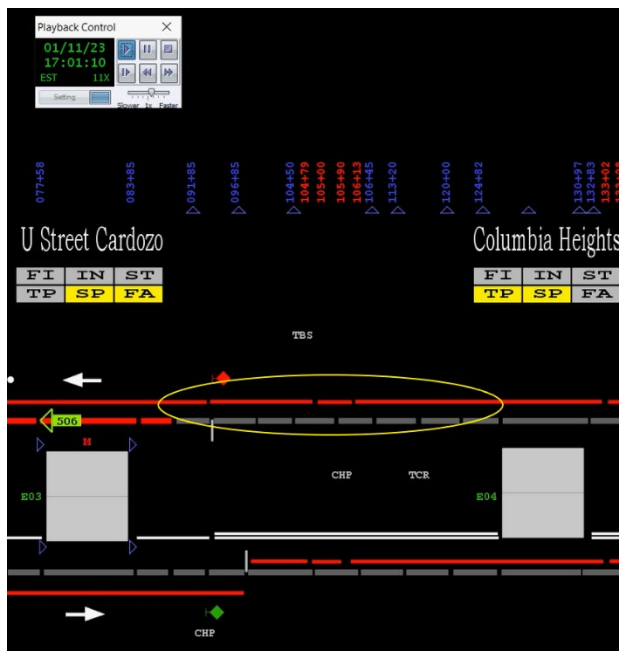


Figure 2: No "blue block" was established at 17:01 hours.

At 17:02 hours, the RWIC advised they were in a position of safety and relinquished their foul time. This prompted the Radio RTC to request a landline from the RWIC. At 17:03 hours, the Radio RTC advised the RWIC that foul time was not granted and advised the RWIC to standby while a train passed the RWIC's location.

At 17:08 hours, the ROCC OM contacted and advised the Power Operations Desk Controller that Power Unit accessed the Traction Power Room without foul time and that an investigation was ongoing. At 17:11 hours, the Buttons RTC advised the OM that the RWIC walked to the Traction Power Room and they instructed the RWIC to remain there until further instruction.

Between 17:43 and 17:46 hours, the Mission Assurance Coordinator (MAC) contacted the Safety Director On-Call (SDOC) and the On-Call Safety Officer and advised them of the incident.

At 17:51 hours, the RWIC requested foul time at E2 105+00 to E2 106+00 to return to a place of safety. The Radio RTC acknowledged and advised the RWIC to standby and stand clear. At 17:53 hours, the Radio RTC advised the RWIC to advise when the next train passed by. The RWIC acknowledged and repeated back. At 17:57 hours, the RWIC advised that a train passed their location, then the Radio RTC advised the RWIC that a "blue block" was in place between E2 105+00 to E2 106+00 and granted Foul Time. The RWIC acknowledged and repeated back.

At 18:00 hours, the RWIC advised that they were in a place of safety and relinquished foul time. The Radio RTC confirmed and repeated back acknowledging the RWIC as clear of the roadway.

The RWIC and crew members reported that foul time was approved by the Radio RTC at the time of the incident.

The Officer of Traction Power Maintenance (TRPM) investigated the event and provided the following:

"After reviewing the audio, the RTC didn't grant foul time. The Power Units assumed they were granted permission to enter the roadway to access E04TB. Upon entering the tie breaker station, the Power Units contacted ROCC to relinquish foul time and were notified that foul time had never been granted. We removed employees from service and escorted them for post incident testing."

The RWIC and the crew members were removed from service and enrolled in RWP Level 4 refresher training.

### Chronological Event Timeline

Time	Description
16:59:57 hours	<u>RWIC</u> : Requested foul time at E2 106+00 to E2 105+00 for the purpose of a supervisory inspection for approximately 20 seconds in order to get to the Traction Power Room. <u>Radio RTC</u> : Acknowledged and advised to standby and stand clear. [Ops 3]
17:01:48 hours	<u>Radio RTC</u> : "Advise central when one train passes your location." <u>RWIC</u> : "Good copy, we'll advise you once we are in our location." [Ops 3] <i>*Communication breakdown here.</i>
17:02:21 hours	<u>RWIC</u> : Advised they were in a position of safety and that they relinquished their foul time. <u>Radio RTC</u> : Requested a landline. [Ops 3]

Time	Description
17:03:41 hours	<u>Radio RTC</u> : Advised the RWIC that foul time was not granted and that they instructed the RWIC to standby while a train passed the RWIC's location. Advised the RWIC to standby. [Phone]
17:08:22 hours	<u>RWIC</u> : Advised the RTC they were still standing by. RTC acknowledged. [Phone]
17:08:45 hours	<u>OM</u> : Contacted the Power Operations Desk Controller and advised them of the incident and that an investigation was ongoing due to a Power Unit accessing the Traction Power Room without foul time. [Phone]
17:11:00 hours	<u>Button RTC</u> : Advised ROCC OM that the RWIC walked to the Traction Power Room after RWIC was instructed to standby. [Phone]
17:12:03 hours	<u>Radio RTC</u> : Advised ROCC OM that they received the RWIC's request at approximately 17:00 hours. [Phone]
17:20:12 hours	<u>RWIC</u> : Advised the Radio RTC they were still standing by. <u>Radio RTC</u> : Acknowledged and advised the RWIC to continue to standby during investigation. <u>RWIC</u> : Acknowledged. [Phone]
17:39:01 hours	<u>AOM</u> : Instructed the Button RTC to advise ROIC of the event. <u>Button RTC</u> : Acknowledged. [Phone]
17:43:18 hours	<u>MAC</u> : Advised the SDOC of the incident. [Phone]
17:46:59 hours	<u>MAC</u> : Advised the On-Call Safety Officer [Phone]
17:51:26 hours	<u>RWIC</u> : Requested foul time at E2 105+00 to E2 106+00 to return back to a place of safety. <u>Radio RTC</u> : Acknowledged and instructed to standby and stand clear. [Radio]
17:53:45 hours	<u>Radio RTC</u> : Instructed the RWIC to advise when the next train passed. <u>RWIC</u> : Acknowledged and repeated. [Radio]
17:57:03 hours	<u>RWIC</u> : Advised that a train had passed. <u>Radio RTC</u> : Advised the RWIC that blue block was in place between E2 105+00 to 106+00 and Foul Time was granted. <u>RWIC</u> : Acknowledged and repeated. [Radio]
18:00:09 hours	<u>RWIC</u> : Advised they were in a place of safety, then relinquished foul time. <u>Radio RTC</u> : Acknowledged. [Radio]

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

## Advanced Information Management System (AIMS)

AIMS Playback confirmed that, at the time of the incident, foul time was not established by the ROCC for the area.

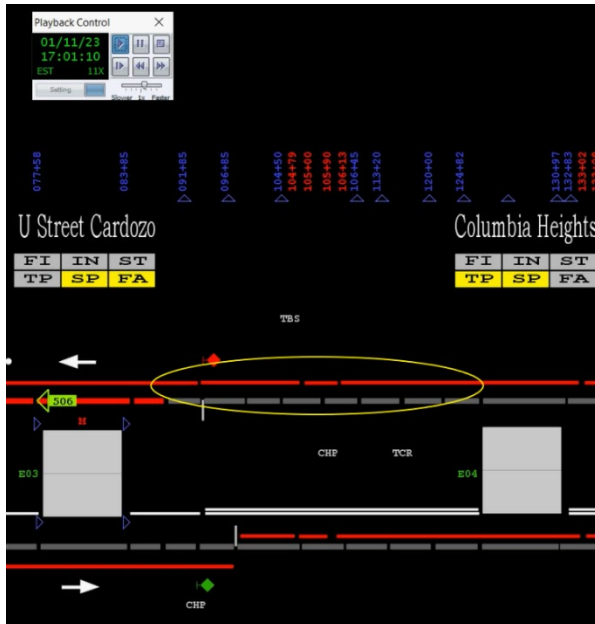


Figure 3: No foul time established at 17:01 hours.

## Office of Systems Maintenance, Office of Radio Communications (COMR)

No reports of issues with communications equipment were identified during the course of the investigation.

## Office of Traction Power Maintenance (TRPM) Report and Personnel Statements

TRPM investigated the event and provided the following:

“After reviewing the audio, the RTC didn’t grant foul time. The Power Units assumed they were granted permission to enter the roadway to access E04TB. Upon entering the tie breaker station, the Power Units contacted ROCC to relinquish foul time and were notified that foul time had never been granted. We removed employees from service and escorted them for post incident testing.”

The RWIC including the crew members were removed from service and enrolled in RWP Level 4 refresher training.

## Interview Findings

*As part of the investigation launched into the event, SAFE interviewed two 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.*

## TRPM RWIC

- The RWIC stated they were assigned to conduct an inspection of a Tie Breaker Station room located between CM E2 106+00 and 105+00, with one other employee.
- The RWIC stated they had a single chain separating them from Track 2, so foul time was required to access the room.
- The RWIC stated they requested approximately 20 seconds of foul time at 17:00 hours from the ROCC via radio.
- The RWIC stated they did not need to enter the roadway, just the catwalk that was adjacent in order to get to the Tie Breaker Station room.
- The RWIC stated they thought the Radio RTC had provided permission for them to enter the catwalk to get to the room and advise when they were in the location.
- The RWIC stated they then got to the room and they relinquished foul time.
- The RWIC stated the Radio RTC requested a landline and upon calling the RTC, the RWIC stated they were advised that they did not have foul time.
- The RWIC stated they stayed in the Tie Breaker Station room while the ROCC conducted their investigation.
- The RWIC stated after approximately an hour, they were granted foul time to go back to CM 106+00 in order to leave the area.
- The RWIC conceded the most likely cause of the incident was a miscommunication between themselves and the Radio RTC.

## Radio RTC

- The Radio RTC stated they were assigned as the Radio RTC on OPS 3 at the time of the incident.
- The Radio RTC stated the RWIC requested foul time in a “broken up kind of way,” to which the RTC was able to interpret.
- The Radio RTC stated he had the RWIC repeat their request and the RTC was able to clarify what was being requested.
- The Radio RTC stated they instructed the RWIC to standby and advise when the next train passed. The Radio RTC stated the RWIC acknowledged and would contact central “in a couple of minutes.” The Radio RTC stated they acknowledged that transmission.
- The Radio RTC stated the RWIC stated they were relinquishing foul time at the Tie Breaker Station.
- The Radio RTC requested the RWIC to give a landline, then advised the RWIC that foul time was never granted, via the phone.
- The Radio RTC stated they notified the AOM of the incident.
- The Radio RTC stated the AOM advised them that they too would be removed from service due to not receiving 100% repeat back.
- The Radio RTC acknowledged that they should have received 100% repeat back.

## **Weather**

On January 11, 2023, at the time of the incident, NOAA recorded the temperature as 41° F, with moderate cloud cover. Weather was not a contributing factor in this incident (Weather source: NOAA) – Location: Washington, DC.)

## Related Rules and Procedures

MSRPH 5.13.5.3: The receiving employee must repeat this permission and the Rail Traffic Controller must then confirm it before FT becomes effective.

MSRPH Order T-22-23 Rev 1.0 – The receiving employee must repeat this permission and the Rail Traffic Controller must then confirm it before FT becomes effective.

## Human Factors

### Fatigue

#### *Signs and Symptoms of Fatigue*

### RWIC

We evaluated signs and symptoms of fatigue that may have been present at the time of the incident. No signs or symptoms of fatigue were detected from the available data. No video of the incident was available to be reviewed for signs of the RWIC's fatigue. 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.

### Radio RTC

We evaluated signs and symptoms of fatigue that may have been present at the time of the incident. No signs or symptoms of fatigue were detected from the available data. No video of the incident was available to be reviewed for signs of the and RTC's fatigue. 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.

#### *Fatigue Risk*

### RWIC

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

### Radio RTC

We evaluated incident data for fatigue risk factors for the RTC. No significant risk was identified. The incident time of day did not suggest an increased risk of fatigue-related impairment. The RTC reported keeping a regular sleep schedule in the days leading up to the incident. The RTC worked evening shift in the days leading up to the incident. The RTC was awake for five hours at the time of the incident. The RTC reported 11.5 hours of sleep in the 24 hours preceding the incident. The off-duty period was ten hours which provides an opportunity for 7-9 hours of sleep. This was a

comparable amount to the employee's usual workday sleep durations. The RTC reported no issues with sleep.

### Post-Incident Toxicology Testing

WMATA's Drug and Alcohol Program determined that the RWIC complied with the Drug and Alcohol Policy and Testing Program 7.7.3/6.

WMATA's Drug and Alcohol Program determined that the Radio RTC complied with the Drug and Alcohol Policy and Testing Program 7.7.3/6.

### Findings

- The RWIC stated they entered the area between Columbia Heights Station and U-Street Station via an access shaft from the street level.
- The RWIC believed the Radio RTC had granted foul time, however, the RTC had instead advised the RWIC to standby and advise them when the nearest train had passed.
- The RTC stated “advise central when one train passes your location,” the RWIC copied back “good copy, we’ll advise you once we are in our location.”
- Train ID 506 was observed entering the area at approximately 16:59 hours.
- The RWIC reported that they were relinquishing foul time from inside the Tie Breaker Station; foul time that was not granted by the RTC.
- The Radio RTC contacted the RWIC and advised them that foul time was not granted and to standby at their current location until the investigation was concluded by the ROCC.
- The RWIC was granted foul time to move out of the Tie Breaker Station approximately 58 minutes after the initial incident.
- No personnel were injured, or property damaged as a result of the incident.

### Immediate Mitigation to Prevent Recurrence

- TRPM removed the RWIC from service.
- ROCC removed the Radio RTC from service .

### Probable Cause Statement

The probable cause of the Improper RWP event was a human factors error in a failure to adhere to established procedures in reference to 100 percent repeat back. This led to the RWIC going to the Tie Breaker Station without protections established.

### Recommended Corrective Actions

<b>Corrective Action Code</b>	<b>Description</b>	<b>Responsible Party</b>	<b>Estimated Completion Date</b>
105445_SAFE CAPS_TRPM 001	Retraining on Foul Time procedures for personnel involved.	TRPM	Completed
105445_SAFE CAPS_ROCC 001	Retraining on Repeat Back for personnel involved.	ROCC	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.*

#### TRPM RWIC

The RWIC has been with WMATA for 8.5 years, 1 year of that as a TRPM Supervisor. The RWIC has an RWP Level 4 certification that expires on 09/30/2023.

The RWIC stated they were assigned to conduct an inspection of a Tie Breaker Station room located between CM E2 106+00 and 105+00, with one other employee. The RWIC stated they had a single chain separating them from Track 2, so foul time was required to access the room.

The RWIC stated they entered the area between Columbia Heights Station and U-Street Station via an access shaft from the street level.

The RWIC stated they called for approximately 20 seconds of foul time at approximately 17:00 hours from the ROCC via radio. The RWIC stated they did not need to enter the roadway, simply the catwalk adjacent in order to get to the Tie Breaker Station room.

The RWIC stated they thought the Radio RTC had provided permission for them to enter the catwalk in order to get to the room and advise when in the location. The RWIC stated they then got to the room where they relinquished foul time. The RWIC stated the RTC then requested a landline and upon calling the RTC, the RWIC stated they found out that they did not have foul time to move into position.

The RWIC stated they then remained on scene at the Tie Breaker Station room while the ROCC conducted their investigation. The RWIC stated after approximately an hour, they were granted foul time by a Replacement Radio RTC to go back to CM 106+00 in order to leave the area. The RWIC stated they then went to L'Enfant HQ to be post-incident tested.

The RWIC conceded the most likely cause of the incident was a miscommunication between themselves and the Radio RTC.

#### Radio RTC

The Radio RTC has been with WMATA for 23.5 years, 1 year of that in their current position. The Radio RTC has an RWP Level 4 certification that expires on 01/31/2023.

The Radio RTC stated they were assigned as the Radio RTC on OPS 3 at the time of the incident. The Radio RTC stated the RWIC requested foul time in a “broken up kind of way,” to which the RTC was able to interpret. The Radio RTC stated he made the RWIC repeat their request to which they did and the RTC was able to clarify what was being requested.

The Radio RTC stated they advised the RWIC to standby and advise central when the nearest train passes. The Radio RTC stated the RWIC acknowledged and would contact central “in a couple of minutes.” The Radio RTC stated they acknowledged that transmission.



The Radio RTC stated the RWIC then stated they were relinquishing their foul time while at the Tie Breaker Station. The Radio RTC requested the RWIC landline where they advised the RWIC that foul time was never granted, via the phone.

The Radio RTC stated they then notified the AOM in reference to the incident. The Radio RTC stated the AOM advised them that they too would be removed from service in reference to the incident due to not providing 100% repeat back. The Radio RTC stated that this was true and that they should have conducted 100% repeat back.

The Radio RTC stated they were removed from service and submitted to post-incident testing. The Radio RTC stated they were removed from service prior to the RWIC being removed from service.

## Appendix B – TRPM Incident Report (Redacted)



Washington Metropolitan Area Transit Authority

Incident Number  
[20230111#105445](#)

### OVERVIEW

Department	RAIL TRPM Traction Power Maint
Incident Date	01/11/2023 06:28 PM
Incident Report Date	01/11/2023 07:57 PM
Maximo #	8645937
Was anyone transported from the scene for medical attention?	No
Was the facility or vehicle evacuated as a result of the incident?	No
Incident Type	Other RWP Event
Incident Description	Crew entered the roadway without being granted foul time protection.
People Impact	None
Asset Impact	None
Preferred Phone	2028414597
Response Level	Level 3
Recommended Response	Supervisor conducts investigation. Must identify interfaces with other work groups. Other work groups may be ad hoc participants.

### DETAILS

#### Environmental Factors

Immediate Mitigation Response	Crew was pulled from service and returned to the field office and taken down for a post incident 1075. The incident took place at Columbia Heights TB E2 CM106 + 00
Lighting	Lights On
Light Conditions	Artificial Lighting
Weather	Clear

#### Location Information

Rail Station/Yard	COLUMBIA HEIGHTS STATION
Address/Nearby Address	3030 14TH STREET NW
Region	WASHINGTON
State	DC
Latitude	38.92784965
Longitude	-77.03262228

### PEOPLE

Document 1 – TRPM Incident Report, Page 1 of 5

Incident Date: 01/11/2023 Time: 17:01 hours  
Final Report – Improper RWP  
E23024

Drafted By: SAFE 705 03/03/2023  
Reviewed By: SAFE 71 – 03/10/2023  
Approved By: SAFE 71 – 03/13/2023

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[Redacted]

Name	[Redacted]
Employee #	[Redacted]
Department Code	33570
Department Name	Power High Voltage
Email	[Redacted]
Age Range	Adult (19 – 60)
Was this person injured?	No
Was a drug test required?	Yes
What was the Justification?	WMATA
Is this person a witness?	No
What happened before the incident?	Requested foul time to enter E04TB.
What happened after the incident?	Notified that foul time was never granted and was removed from service and escorted for post incident testing.
Was this person driving?	No
Occupant of Vehicle	None
Personal Protective Equipment (PPE) Usage	
OSHA Recordable	
OSHA Injury Code	
Job Title	
Where Event Occurred	
OSHA Location	
Days Away from Work	
Days Restricted	
Private	No

**FATIGUE INFORMATION**

What was the employee's bed time, for the sleep period preceding the incident?	Not Available (Otherwise unavailable to question)
What time did the employee's wake up?	Not Available (Otherwise unavailable to question)
Was this the employee's sleep schedule in the last seven days, including days off?	Not Available (Otherwise unavailable to question)
How alert was the employee's immediately prior to the incident?	Fully Alert

*Document 2 - TRPM Incident Report, Page 2 of 5*

Incident Date: 01/11/2023 Time: 17:01 hours  
Final Report – Improper RWP  
E23024

Drafted By: SAFE 705 03/03/2023
Reviewed By: SAFE 71 – 03/10/2023
Approved By: SAFE 71 – 03/13/2023

Were there any behaviors suggestive of fatigue? None Observed

**SUMMARY OF FATIGUE FACTORS**

---

Length of employee's last sleep Not Available  
Short prior sleep Not Available  
Hours spent awake at time of incident Not Available  
Long wake period Not Available  
Circadian effects on alertness at time of incident (incident between 02:00 am and 05:00 am?) No  
Circadian effects on time of sleep in week before incident Not Available  
Employee alertness at incident No  
Observed fatigue behaviours No

**WMATA Personnel - [REDACTED]**

---

Name [REDACTED]  
Employee # [REDACTED]  
Department Code 33570  
Department Name Power High Voltage  
Email [REDACTED]  
Age Range Adult (19 – 60)  
Was this person injured? No  
Was a drug test required? Yes  
What was the Justification? WMATA  
Is this person a witness? No  
What happened before the incident? Requested foul time to enter E04TB.  
What happened after the incident? Once in E04TB they connected ROCC to relinquish their foul time and were notified no foul time had been granted. Employees were removed from service and escorted for post incident.  
Was this person driving? No  
Occupant of Vehicle None  
Personal Protective Equipment (PPE) Usage  
OSHA Recordable  
OSHA Injury Code

*Document 3 - TRPM Incident Report, Page 3 of 5*

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Incident Date: 01/11/2023 Time: 17:01 hours  
Final Report – Improper RWP  
E23024

Drafted By: SAFE 705 03/03/2023
Reviewed By: SAFE 71 – 03/10/2023
Approved By: SAFE 71 – 03/13/2023

Job Title  
Where Event Occurred  
OSHA Location  
Days Away from Work  
Days Restricted  
Private No

### FATIGUE INFORMATION

---

What was the employee's bed time, for the sleep period preceding the incident? Not Available (Otherwise unavailable to question)  
What time did the employee's wake up? Not Available (Otherwise unavailable to question)  
Was this the employee's sleep schedule in the last seven days, including days off? Not Available (Otherwise unavailable to question)  
How alert was the employee's immediately prior to the incident? Fully Alert  
Were there any behaviors suggestive of fatigue? None Observed

### SUMMARY OF FATIGUE FACTORS

---

Length of employee's last sleep Not Available  
Short prior sleep Not Available  
Hours spent awake at time of incident Not Available  
Long wake period Not Available  
Circadian effects on alertness at time of incident (incident between 02:00 am and 05:00 am?) No  
Circadian effects on time of sleep in week before incident Not Available  
Employee alertness at incident No  
Observed fatigue behaviours No

## INVESTIGATION

### General

---

Equipment Involved  
Known Facts Crew violated permanent order NO. TS-22-23 UPDATED, MSRPH Rule

*Document 4 - TRPM Incident Report, Page 4 of 5*

5.13.5 - FOUL TIME PROTECTION(PT). Supervisor requested foul time to enter E04TB for a supervisor room inspection. After clearing the roadway, crew was notified that they were never granted permission to enter the roadway and of the RWP/ Safety violation.

**DriveCam Event #**

**Key Factors**

Employee Communications Needs Improvement

**Root Causes**

Human Performance Difficulty/Individual Performance Complication/Was a mistake made while using a procedure?/Procedures/Followed Incorrectly/Misused second check

**Investigation Comments**

Paulk, (01/12/2023 07:44 AM) E. After reviewing the audio, the RTC didn't grant foul time. The Power units assumed they were granted permission too enter the roadway to access E04TB. Upon entering the tie breaker station, the power units connected ROCC to relinquish foul time and were notified that foul time had never been granted. We removed the employees from service and escorted them for post incident testing.

**CORRECTIVE ACTIONS**

**RWP training**

<b>Incident</b>	20230111#105445
<b>Priority</b>	(2) Normal
<b>Status</b>	In Progress
<b>% Complete</b>	0
<b>Action Owner</b>	White, Gabriel A.
<b>Start Date</b>	01/12/2023
<b>Management System</b>	Training
<b>Corrective Action Title</b>	RWP training
<b>Corrective Action(s)</b>	Both employees will be enrolled in the RWP requalification training for Level 4.
<b>Target Date</b>	01/31/2023
<b>Actual Completion Date</b>	01/31/2023
<b>CAP Closure Category</b>	In Progress

**ATTACHMENTS**

Original Name	File Name
Adams Post incident paperwork_01112023.pdf	<a href="#">20230111_105445_1350.pdf</a>
Prather post incident paperwork_01112023.pdf	<a href="#">20230111_105445_1351.pdf</a>
Adams statement_01112023.pdf	<a href="#">20230111_105445_1352.pdf</a>
Prather Statement_01112023.pdf	<a href="#">20230111_105445_1353.pdf</a>

Appendix C – TRPM Written Statements (Redacted)

Initial Incident Form		TO BE COMPLETED AND DISTRIBUTED WITHIN 24 HOURS		Page 1 of 2	
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY					
<b>INCIDENT</b>					
Date: 1/11/23	Incident Time: 17:01	<input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	Date/Time Reported: 1/11/23	<input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	Worksafe Incident ID# 20230111#105445
Location: R04TD				Incident ID# (From ROCC, BOCC, etc.)	
Type of Incident: <input type="checkbox"/> Altercation <input type="checkbox"/> External Complaint <input type="checkbox"/> Gas Detection Alarm <input type="checkbox"/> Medical Treatment <input type="checkbox"/> Vandalism <input type="checkbox"/> Assault <input type="checkbox"/> Fatality <input type="checkbox"/> Hazardous Material <input type="checkbox"/> Near Miss <input type="checkbox"/> Other: <input type="checkbox"/> Derailment <input type="checkbox"/> Fire <input type="checkbox"/> Handling <input type="checkbox"/> No Treatment <input type="checkbox"/> Elevator Entrapment <input type="checkbox"/> First Aid Case <input type="checkbox"/> Internal Complaint <input type="checkbox"/> Rupture or Spill <input type="checkbox"/> Escalator <input type="checkbox"/> Flood <input type="checkbox"/> Leak <input type="checkbox"/> Trespassing					
<b>WMATA PERSONNEL INVOLVED</b>					
[Redacted]		Age: 31	Employee # or MTPD Badge #: 016825		
Phone Number: [Redacted]	Job Title: Supervisor	Department: TRPM	Division/Section: TRPM/HV		
Last Day Worked (prior to): 1/6/23	Hours Worked (within last 24 hrs): 17		Overtime? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
<b>COMPLETE FOR INCIDENTS WITHIN THE RAIL SYSTEM</b>					
Train/Vehicle ID	Direction	Track #	Car/Vehicle Numbers	Trouble Code	Resp Code
Mezzanine #	AFC Equipment #	Escalator/Elevator #	Entrance	Platform	Track
<b>COMPLETE FOR INCIDENTS WITHIN THE BUS SYSTEM</b>					
Bus or Tag Number	Vehicle or Tag Number	Block Number	Run Number		
<b>DESCRIBE THE INCIDENT AND PROPERTY/EQUIPMENT DAMAGE</b>					
Provide factual information about the task, actions before and after the incident, the injury causing agent and any damage caused to property or equipment. Provide a diagram(s) and/or photos as attachments. If necessary, provide diagram in this space or on a separate page.					
Doing a supervisor room inspection at R04TD needed foot time to walk from fan shaft at 106+00 to 105+00 for a room inspection. Echo line track 2. A/C and made my request stand by until clear. one called back Central Operator (Ruffins) called and said. You're been granted foot time call me once in a place of safety call Ruffins in the room and said lead line him.					
<b>EXTERNAL AGENCIES INVOLVED</b>					
<input type="checkbox"/> Fire Dept. - Arrival Time: _____		<input type="checkbox"/> EMS. - Arrival Time: _____			
<input type="checkbox"/> Police - Arrival Time: _____		<input type="checkbox"/> Other - Arrival Time: _____			
Name	Badge Number	Complaint Number	Jurisdiction		
Engine Number	Ambulance Number	Hospital			
<b>ACTIONS TAKEN BY SUPERVISOR:</b>					
Describe immediate changes made to address the incident.					
[Redacted]					Date: 1/11/23
Supervisor (Signature): [Redacted]					
Print name: [Redacted]					

50 688 04/09 Original: RISK Copy 1: Kiosk Copy 2: Department Photocopy to SAFE, Employee and other per Department requirements

Page 1

Document 6 – TRPM Written Statements, Page 1 of 3

Incident Date: 01/11/2023 Time: 17:01 hours  
 Final Report – Improper RWP  
 E23024

Drafted By: SAFE 705 03/03/2023  
 Reviewed By: SAFE 71 – 03/10/2023  
 Approved By: SAFE 71 – 03/13/2023

Page 20



<b>INCIDENT</b>	
Date: 1/11/23	Incident Time: 17:20 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Date/Time Reported: 1/11/23	Worksafe Incident ID#: 20230111#105445
Location: KOTTB	
Incident ID# (From ROCC, BOCC, etc.)	
Type of Incident:	<input type="checkbox"/> Flood <input type="checkbox"/> Damage to Property <input type="checkbox"/> Entrainment: <input type="checkbox"/> Elevator <input type="checkbox"/> Disabled Train <input type="checkbox"/> Evacuation <input type="checkbox"/> Fire
<input type="checkbox"/> Hazardous Material Incident: <input type="checkbox"/> Detector <input type="checkbox"/> Leak <input type="checkbox"/> Spill <input type="checkbox"/> Near Miss <input type="checkbox"/> Rail Vehicle Collision: <input type="checkbox"/> Collision <input type="checkbox"/> Derailment	<input type="checkbox"/> Request for Medical Assistance <input type="checkbox"/> Smoke <input type="checkbox"/> Trespassing Incident Class: <input type="checkbox"/> Injury <input checked="" type="checkbox"/> No Loss <input type="checkbox"/> Property Damage <input checked="" type="checkbox"/> Other
Injury Class: <input type="checkbox"/> Fatality <input type="checkbox"/> First Aid Only <input type="checkbox"/> Loss of Consciousness <input type="checkbox"/> Lost Time <input type="checkbox"/> No Treatment	

<b>WMATA PERSONNEL INVOLVED</b>	
Age: 31	Employee # or MTPD Badge #: 616825
Job Title: Supervisor	Department: TRPM
Division/Section: TRPM/AV	
Last Day Worked (prior to): 1/10/23	Hours Worked (within last 24 hrs): 14 hrs
Overtime? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

<b>COMPLETE FOR INCIDENTS WITHIN THE RAIL SYSTEM</b>						
Train/Vehicle ID	Direction	Track #	Car/Vehicle Numbers	Trouble Code	Resp Code	
Mezzanine #	AFC Equipment #	Escalator/Elevator #	Entrance	Platform	Track	Room #

<b>COMPLETE FOR INCIDENTS WITHIN THE BUS SYSTEM</b>			
Bus or Tag Number	Vehicle or Tag Number	Block Number	Run Number

**DESCRIBE THE INCIDENT AND PROPERTY/EQUIPMENT DAMAGE**  
 Provide factual information about the task, actions before and after the incident, the injury causing agent and any damage caused to property or equipment. Provide a diagram(s) and/or photos as attachments. If necessary, provide diagram in this space or on a separate page.

He whispered he didn't give full time over the air. When me and [redacted] heard him throughly. Had to stand by until further notice. Called manager and now going through the safety protocols. Definitely heard him say full time granted.

<b>EXTERNAL AGENCIES INVOLVED</b>			
<input type="checkbox"/> Fire Dept. - Arrival Time: _____	<input type="checkbox"/> EMS - Arrival Time: _____		
<input type="checkbox"/> Police - Arrival Time: _____	<input type="checkbox"/> Other _____	- Arrival Time: _____	
Name	Badge Number	Complaint Number	Jurisdiction
Engine Number	Amulance Number	Hospital	

**ACTIONS TAKEN BY SUPERVISOR**  
 Describe immediate changes made to address the incident.

crew was taken out of service post incident. Fact finding actions continue.

Date: 1/11/23
Date: 1/11/23
Print name: [redacted]



**M Initial Incident Form** TO BE COMPLETED AND DISTRIBUTED WITHIN 24 HOURS Page 1 of 1

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Date: 1/11/23 Incident Time: 12:00 PM Data/Time Reported: 1/11/23 12:00 PM Worksafe Incident ID#: 0008836 105445  
 Location: E04 TB Incident ID# (From ROCC, BOCC, etc.):

- Type of Incident:
- Altercation
  - Assault
  - Derailment
  - Elevator Entrapment
  - Escalator
  - External Complaint
  - Fatality
  - Fire
  - First Aid Case
  - Flood
  - Gas Detection Alarm
  - Hazardous Material Handling
  - Internal Complaint
  - Leak
  - Medical Treatment
  - Near Miss
  - No Treatment
  - Rupture or Spill
  - Trespassing
  - Vandalism
  - Other: \_\_\_\_\_

WIMATA PERSONNEL INVOLVED

Name: [Redacted] Age: 63 Employee # or MTPD Badge #: [Redacted]

Phone Number: [Redacted] Job Title: High Voltage Tech Department: Power Division/Section: TRPM

Last Day Worked (prior to): 1/10/23 Hours Worked (within last 24 hrs): Overtime?  Yes  No

COMPLETE FOR INCIDENTS WITHIN THE RAIL SYSTEM:

Train/Vehicle ID: Direction: Track #: Car/Vehicle Numbers: Trouble Code: Resp Code:

Mezzanine #: AFC Equipment #: Escalator/Elevator #: Entrance: Platform: Track: Room#:

COMPLETE FOR INCIDENTS WITHIN THE BUS SYSTEM

Bus or Tag Number: Vehicle or Tag Number: Block Number: Run Number:

DESCRIBE THE INCIDENT AND PROPERTY/EQUIPMENT DAMAGE

Provide factual information about the task, actions before and after the incident, the injury causing agent and any damage caused to property or equipment. Provide a diagram(s) and/or photos as attachments. If necessary, provide diagram in this space or on a separate page.

Fuel Time was Requested At E04 TB Track #2 Central GRANTED Fuel Time to Enter E04 TB And said. Let Central know when your in A place of safety

EXTERNAL AGENCIES INVOLVED

Fire Dept. - Arrival Time: \_\_\_\_\_  EMS. - Arrival Time: \_\_\_\_\_  
 Police - Arrival Time: \_\_\_\_\_  Other: \_\_\_\_\_ - Arrival Time: \_\_\_\_\_

Name: \_\_\_\_\_ Badge Number: \_\_\_\_\_ Complaint Number: \_\_\_\_\_ Jurisdiction: \_\_\_\_\_  
 Engine Number: \_\_\_\_\_ Ambulance Number: \_\_\_\_\_ Hospital: \_\_\_\_\_

ACTIONS TAKEN BY SUPERVISOR.

Describe immediate changes made to address the incident.

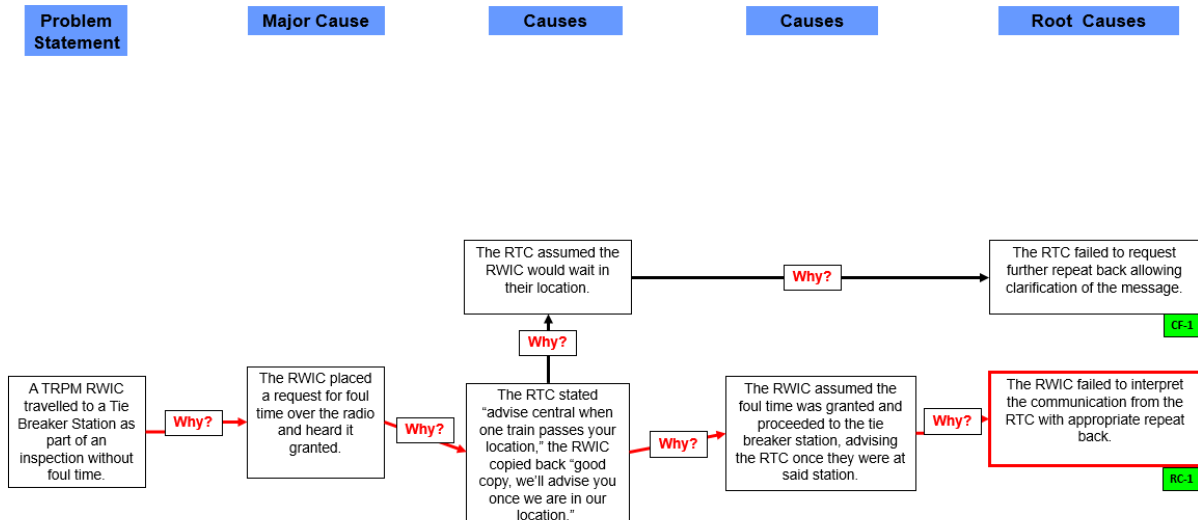
crew was taken out of service post RWR Incident fact finding continues

Print name: [Redacted] Date: 1/11/23  
 Employee Number: [Redacted] Phone Number: [Redacted]

Supervisor (Signature): [Redacted] Date: 02/11/23  
 Print name: [Redacted]

50-888 04/09 Original: RISK Copy 1: Kiosk Copy 2: Department Photocopy to SAFE, Employee and other per Department requirements

# Appendix D - Root Cause Analysis



## Root Cause Analysis





Washington Metropolitan Area Transit Authority  
Department of Safety (SAFE)  
Office of Safety Investigations (OSI)  
**FINAL REPORT OF INVESTIGATION A&I E23026**

<b>Date of Event:</b>	January 12, 2023
<b>Type of Event:</b>	Improper Roadway Worker Protection
<b>Incident Time:</b>	11:04 hours
<b>Location:</b>	Rockville Station, Track 1
<b>Time and How received by SAFE:</b>	11:23 hours Mission Assurance Coordinator (MAC)
<b>WMSC Notification Time:</b>	12:10 hours
<b>Responding Safety Officers:</b>	WMATA: N/A WMSC: N/A Other: N/A
<b>Rail Vehicle:</b>	L7418x7419x7169x7168T
<b>Injuries:</b>	None
<b>Damage:</b>	None
<b>Emergency Responders:</b>	N/A
<b>SMS I/A Number</b>	20230113#105476

# Rockville Train Station – Improper RWP

January 12, 2023

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## Abbreviations and Acronyms

<b>AMF</b>	Advanced Mobile Flagger
<b>CAP</b>	Corrective Action Plan
<b>CCTV</b>	Closed-Circuit Television
<b>MSRPH</b>	Metrorail Safety Rules and Procedures Handbook
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>PPE</b>	Personal Protective Equipment
<b>RTRA</b>	Office of Rail Transportation
<b>ROCC</b>	Rail Operations Control Center
<b>RWIC</b>	Roadway Worker in Charge
<b>RWP</b>	Roadway Worker Protection
<b>SAFE</b>	Department of Safety
<b>SMS</b>	Safety Measurement System
<b>WMATA</b>	Washington Metropolitan Area Transit Authority
<b>WMSC</b>	Washington Metrorail Safety Commission

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

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**Executive Summary**

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

On January 12, 2023, an Office of Rail Transportation (RTRA) Quality Control Officer bypassed Rockville Station while operating a four-car consist (L7418x7419x7169x7168T) with Train ID 800 at 11:04 hours, performing training certification with a newly hired Train operator. As they passed through the station, they observed a Washington Metropolitan Area Transit Authority (WMATA) employee stationed in close proximity to the eight-car marker wearing a high visibility jacket. The employee took no action to flag the train to stop at the platform. The Quality Control Officer believed the employee was waiting for a revenue train for transport.

At 11:06 hours, the Quality Control Officer notified the Rail Operations Control Center (ROCC) of an Improper Roadway Worker Protection (RWP) event between Rockville and Twinbrook Stations. The Quality Control Officer further reported that they encountered a mobile work crew on the roadway on track one while en route to Twinbrook Station. They informed the ROCC that they were never briefed or encountered an Advanced Mobile Flagger (AMF) at Rockville Station to provide instructions and awareness of personnel conducting a track inspection between Rockville and Twinbrook Stations.

The Quality Control Officer informed the ROCC that they did not observe an AMF with any of the required Personal Protective Equipment (PPE), which includes an air horn, amber flashing lantern, orange flag, and whistle while bypassing Rockville Station.

WMATA's Closed Circuit Television (CCTV) systems were reviewed and confirmed several aspects of the Quality Control Officer's report. In the footage, it can be seen that the stationed AMF did not flag the train to stop at the platform. After the train bypassed the station, the AMF was heard on the radio stating "Train on the way." This action does not follow established RWP procedures, which required the AMF to take additional steps to affirmatively notify the work crew and ROCC of the train's approach. In addition, the AMF did not appear to have the orange flag in hand and the amber lantern was horizontally affixed to the eight-car marker end gate instead of being vertically on the ground next to the AMF.

At 11:37 hours, the Road Worker In Charge (RWIC) and their work crew reached the Rockville Station platform. The RWIC relinquished all roadway protection and ceased further operations.

The AMF was removed from service for post-incident testing. There were no reported injuries during this event to any WMATA personnel or customers.

The probable cause for this Improper RWP event was the failure of the AMF to perform in accordance with established RWP procedures.





- 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 – A collection of relevant work history information and process documentation contained in Metro systems of record. These records include:
  - Quality Control Officer Incident Statement
  - Quality Control Officer Training Record
  - Quality Control Officer 30-day Work History
  - AMF Incident Statement
  - RWIC Incident Statement
  - Management Incident Report
  - Metrorail Safety Rules and Procedures Handbook (MSRPH)
  - National Oceanic and Atmospheric Administration (NOAA)
  - Safety Briefing
  - TRST Employee Incident Report
- System Data Recording Review – A collection of information contained in Metro Data Recording Systems. This data includes:
  - Audio Recording System (ARS) playback including OPS 3 Radio
  - Closed-Circuit Television (CCTV)
  - ROCS SPOT Check

## **Investigation**

On Jan 12, 2023, an RTRA Quality Control bypassed Rockville Station while operating a four-car consist (L7417x7419x7169x7168T) at 11:04 hours while performing training certification with a newly hired Train operator. As they passed through the station, they observed a WMATA employee stationed in close proximity to the eight-car marker wearing a high-visibility jacket. They believed the employee was waiting for a revenue train for transport.

At 11:06 hours, the Quality Control Officer notified the ROCC of an Improper RWP event Rockville and Twinbrook Stations. The Quality Control Officer further reported that they encountered a mobile work crew on the roadway on track one while en route to Twinbrook Station. The Quality Control Officer informed the ROCC that they were never briefed or encountered an AMF at Rockville Station to provide instructions and awareness of Track Personnel conducting track inspection between Rockville and Twinbrook Stations.

The Quality Control Officer informed the ROCC that they did not observe an AMF with any of the required PPE, which includes an air horn, amber flashing lantern, orange flag, and whistle while bypassing Rockville Station. The Quality Control Officer reported that they did not receive the scripted briefing from the AMF.

CCTV review confirmed several aspects of the Quality Control Officer's report. On the footage, it can be seen that the stationed AMF did not flag the train to stop at the platform. After the train bypassed the station, the AMF was heard on the radio stating "Train on the way." This action is not in accordance with established RWP procedures, which required the AMF to take additional steps to affirmatively notify the work crew and ROCC of the train's approach. In addition, the AMF did not appear to have the orange flag in hand and the amber lantern was horizontally affixed to the eight-car marker end gate instead of being vertical on the ground next to the AMF.



At 11:37 hours, the Road Worker In Charge (RWIC) and their work crew reached the Rockville Station platform to a place of safety. The RWIC relinquished all roadway protection and further operations. The AMF was removed from service for post-incident testing. There were no reported injuries during this event to any WMATA personnel or customers.

A review of CCTV camera A14-P-050 footage was conducted and revealed the following:

- At 10:23 hours the AMF arrived at Rockville Station and alighted from car 2336, Track 2
- The AMF affixed the amber light to the eight-car marker end gate horizontally, with the light facing the operator. They placed their helmet on the concrete ledge. The orange flag was not visible in their hand.



*Figure 1 - Figure 1 AMF after briefing train 103 at Rockville Station.*

- At 11:00 hours, they briefed revenue train ID 103.
- At 11:04 hours, non-revenue Train ID 800 bypasses the station and the AMF does not attempt to stop the train.



Figure 2 - Train 800 bypassing Rockville Station

- The AMF was observed briefing revenue trains at 11:10, 11:13, 11:15, 11:21, and 11:30 hours. (verified through CCTV & SPOTS)
- At 11:37 hours, the mobile work crew arrives at Rockville Station.



Figure 3 - Work crew arriving at the Rockville Station platform.

## Orange Warning Flag



An 18" X 18" Flag used by the AMF while positioned on a station platform to signal Rail Vehicle Operators to Stop.

*Figure 4 - MSRPH Section 5 Image depicts the proper utilization of PPE equipment when performing AMF duties*

## Chronological Event Timeline

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

Time	Description
10:23:36 hours	<u>AMF</u> : Arrived at Rockville Station and alights from car 2336. [CCTV]
10:26:53 hours	<u>AMF</u> : [Unit ID], Rockville eight-car chain marker, ready to flag. One train just left the platform. How do you copy? <u>RWIC</u> : That's a good copy. Central [Unit ID]. <u>Student Radio RTC</u> : Contacts the RWIC and advises them that they are not following radio protocol. <u>RWIC</u> : Acknowledges the message and states they will correct the non-compliance. <u>RTC Radio</u> : Acknowledges and requests their current Chain Marker. <u>RWIC</u> : All personnel are on the Twinbrook platform, ready to continue my track inspection, Twinbrook to Rockville, Track#1. I would like to start this off with foul time, chain marker A1 705-A1 711+00, how do you copy central? <u>AMF</u> is at Rockville track#1 at the eight-car marker ready to flag. <u>Student Radio RTC</u> : A-firm, get home safe, AMF did not speak to the train on approach. I copy A1 705- A1 711+00 Twinbrook to Rockville. Let me know when the train is berthed. Under AMF protection. <u>RWIC</u> : Acknowledged and Repeated. I will advise when the train is properly berthed on the platform. [Radio Ops1]
10:39:47 hours	<u>Radio RTC</u> : Track Unit#2, please confirm that train has properly berthed at Twinbrook track #1 <u>RWIC</u> : Acknowledged [inaudible] <u>Radio RTC</u> : Verify that the train is properly berthed on track#1. Foul time protection is in place and granted A1 705-A1 711+00. <u>RWIC</u> : Acknowledged and Repeated. I will notify you when I reach the platform. <u>Radio RTC</u> : Acknowledged and Repeated. [Radio Ops1]
10:43:32 hours	<u>Radio RTC</u> : [Unit ID], How are you doing with that foul time over? <u>RWIC</u> : 30 seconds, Central. <u>RWIC</u> : I would like to relinquish my foul time at this time and go under AMF protection. <u>Radio RTC</u> : Foul time relinquished at 10:45, under AMF protection. <u>RWIC</u> : Acknowledged and repeated. <u>AMF</u> : Back under AMF protection. [Radio Ops1]
11:01:40 hours	<u>Train Operator#1</u> : Good morning Central, this is Train 800. This is [Operator#1] with QA Training aboard, our destination is Grosvenor. <u>Radio RTC</u> : Acknowledged and repeated. [Radio Ops1]
11:04:00 hours	<u>Train 800</u> : Arrives at Rockville Station. [CCTV-SPOTS]
11:06:08 hours	<u>AMF</u> : "[Unit ID] Train on the way." [Radio Ops1] <i>No acknowledgement or other response recorded.</i>
11:06:42 hours	<u>Button RTC</u> : Control Center. <u>Train Operator QA</u> : Whoever is at Rockville did not stop us to tell us that there were other personnel between Rockville and Twinbrook. We saw someone standing there but they didn't have a red reflector, and they didn't try to stop us either. We just saw other personnel out there. <u>Button RTC</u> : And you said that's Rockville to Twinbrook. <u>Train Operator QA</u> : Yes, there is other personnel out there. <u>Button RTC</u> : Acknowledged and repeated. [Phone]

Time	Description
11:09:08 hours	<p><u>Button RTC</u>: Assuming it was the training train because they were in the area when the call came in.</p> <p><u>Operations Manager</u>: They said the AMF didn't have their lantern down.</p> <p><u>Button RTC</u>: No lantern down and did not give the briefing of personnel on the track between Twinbrook and Rockville.</p> <p><u>Operations Manager</u>: Call the RWIC and ask them to call their AMF direct to see if they're briefing every train.</p> <p><u>Button RTC</u>: Acknowledged and repeat. [Phone]</p>
11:12:06 hours	<p><u>Radio RTC</u>: Train 104 at Rockville track#1, come in.</p> <p><u>Train 104</u>: 104 Rockville, track#1.</p> <p><u>Radio RTC</u>: Is there an AMF by the eight-car marker? Do they have all equipment in place, flashing lantern on the platform?</p> <p><u>Train 104</u>: A-firm, they are in place, they have all their equipment, and I was about to get debriefed. (inaudible) [Radio Ops1]</p>

*\*\*Note: Times above may vary from other system's timelines based on clock settings and reporting source.*

# Advanced Information Management System (AIMS)

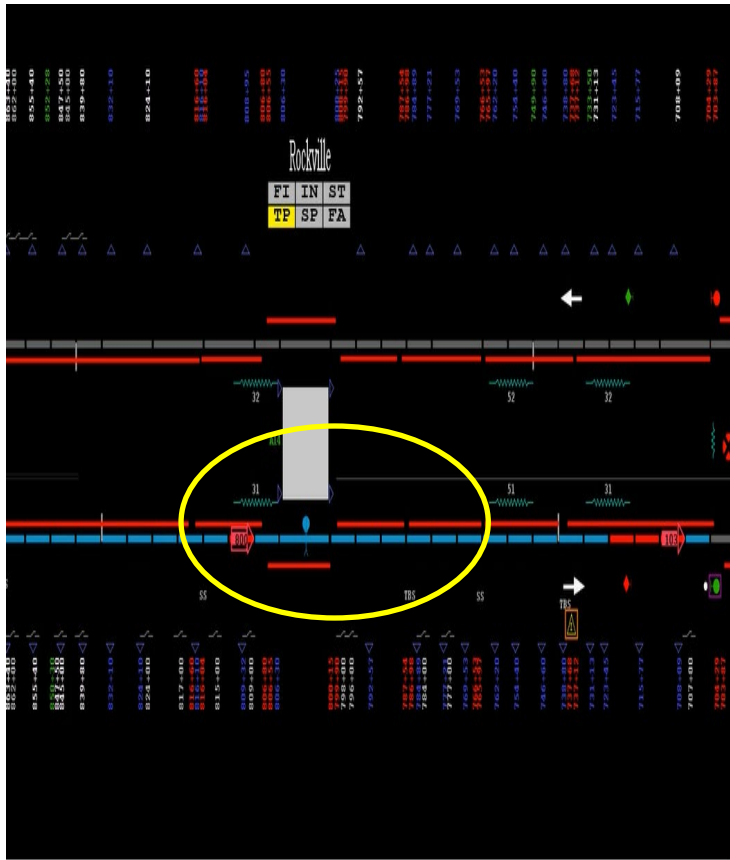


Figure 5 - AIMS-TRAIN 800 entering Rockville Station (Did not receive briefing)

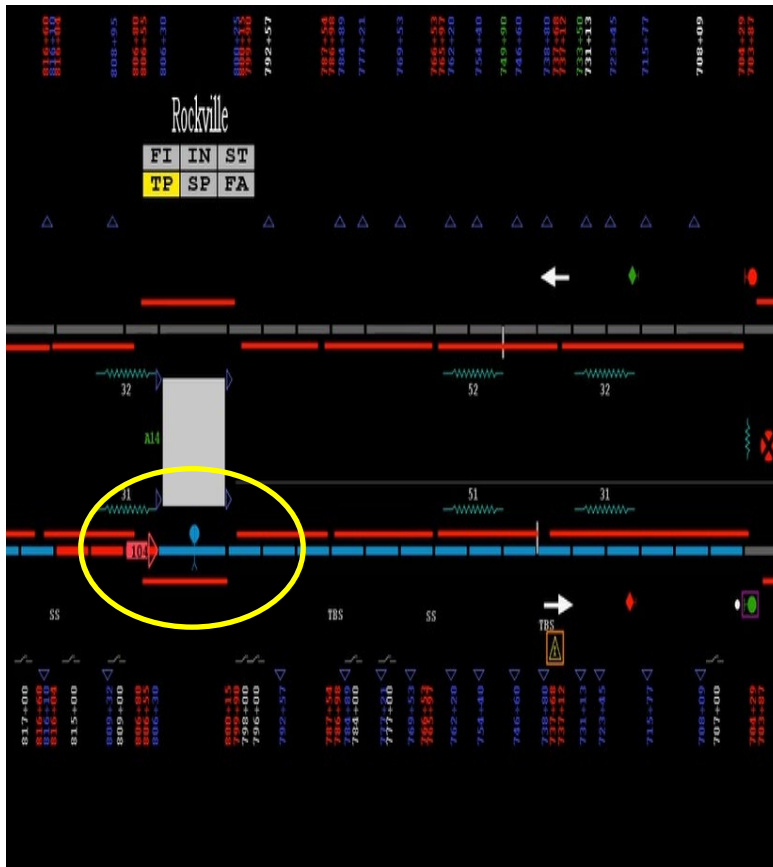


Figure 6 - AIMS-Train 104 at Rockville Station (Received briefing)



# ROCS Spot Report

## ROCS SPOTS REPORT

based on up-to-the-second operational performance data from the Rail Operations Control System

Current date/time: Mon Jan 16 17:00:17 2023

Select Platform:  and/or Select ID:  Leave blank to remove criteria  
 and/or Select 4-digit car number:  Leave blank to remove criteria  
 Select Date:    Select Times (0-24HRS): From  To

Generate Report

ID	Platform	length	dcode	Right door open	Right door close	dwll	Left door open	Left door close	dwll	Head Arrived	Tail cleared	cars	Headway door open to door open
116	A14-1	8	13				10:08:10	10:08:24	14	10:07:27	10:08:48	7706-7707.7737-7736.7268-7269.7685-7684	-
116	A14-1	8	13							10:08:52	10:09:03	7706-7707.7737-7736.7268-7269.7685-7684	-
117	A14-1	8	13				10:18:05	10:18:16	11	10:17:32	10:18:39	7720-7721.7297-7296.7010-7011.7443-7442	9:55
117	A14-1	8	13							10:18:43	10:18:48	7720-7721.7297-7296.7010-7011.7443-7442	-
117	A14-1	8	13							10:18:49	10:18:51	7720-7721.7297-7296.7010-7011.7443-7442	-
118	A14-1	6	13				10:26:00	10:26:24	24	10:25:30	10:26:49	2008-2009.3240-3241.3028-3029	7:55
101	A14-1	6	13				10:36:10	10:36:56	46	10:35:31	10:37:18	2024-2025.3099-3098.2060-2061	10:10
101	A14-1	6	13							10:37:20	10:37:27	2024-2025.3099-3098.2060-2061	-
102	A14-1	8	13				10:50:29	10:50:43	14	10:49:43	10:51:11	7184-7185.7313-7312.7334-7335.7431-7430	14:19
103	A14-1	8	13				10:59:37	10:59:52	15	10:59:04	11:00:21	7048-7049.7439-7438.7640-7641.7657-7656	9:08
800	A14-1	4	82							11:04:37	11:05:13	7418-7419.7169-7168	-
104	A14-1	2	13				11:11:02	11:11:49	47	11:10:24	11:13:52	7486-7487.7093-7092.7154-7155.7655-7654	11:25
820	A14-1	8	99							11:14:42	11:16:39	unknown	-
105	A14-1	6	13				11:21:00	11:21:16	16	11:20:24	11:21:40	3068-3069.3132-3133.3073-3072	9:58
106	A14-1	8	13				11:30:39	11:31:02	23	11:30:04	11:31:31	7624-7625.7287-7286.7342-7343.7131-7130	9:39
107	A14-1	2	13				11:41:05	11:41:22	17	11:40:30	11:41:51	7404-7405.7305-7304.7388-7389.7533-7532	10:26
108	A14-1	8	13				11:51:58	11:52:13	15	11:51:26	11:52:40	7214-7215.7397-7396.7580-7581.7499-7498	10:53
109	A14-1	6	13				11:57:49	11:58:09	20	11:57:17	11:58:32	2042-2043.2013-2012.2003-2002	5:51



Figure 7 - Highlights Train ID 800 at Rockville Station

### Interview Findings

As part of the investigation launched into the event, SAFE interviewed three employees. 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.

#### Track Walker B (AMF):

- The AMF stated that after their arrival and set up on the platform at Rockville Station, two or three trains passed their location and were briefed with instructions without issue.
- The AMF stated that their light(lantern) was on, their flag and helmet was on the concrete slab behind the eight-car marker and were standing off the platform, not on the edge of the platform waving the trains down.
- The AMF stated that they observed a train entering the station at a normal speed relative to previous trains entering the station, so they assumed that the operator saw them and was preparing to stop. They waited for the train to stop to be briefed at the eight-car marker, but they continued through the station without stopping to get briefed.
- The AMF stated that after the train rolled through the station without being briefed, they transmitted over the radio (OPS1) to their RWIC that a train was on the way.

#### Track Walker A (RWIC):

- The RWIC stated that all personnel were visually inspected and equipped with the needed PPE to perform their duties upon turn-out (beginning of shift).
- The RWIC stated that they further checked all their assigned personnel on each platform to ensure all PPE was in place and utilized.
- The RWIC stated that the AMF assigned to their work crew had and used all the required PPE while performing their duties.



- The RWIC stated that they observed the AMF when they arrived at Rockville station and observed the RWIC utilizing all the proper PPE. (Observed on CCTV)
- The RWIC stated that they observed a non-revenue train passed their work crew at half the regulated speed. The RWIC further stated they heard an active horn activation from the operator and Supervisor, which they assumed was briefed by the AMF.

#### RTRA Quality Control Officer

- The RTRA Quality Control Officer stated at 11:10 hours they and the probationary train operator began their main line exercises at Shady Grove where they had an AMF to instruct and brief us on a road crew performing inspections between Shady Grove and Rockville. The Quality Control Officer further stated that they followed the RWP procedures en route to Rockville.
- The RTRA Quality Control Officer stated that the operator activated the horn with two horn blasts in while passing personnel on track#1 leaving Shady Grove.
- The RTRA Quality Control Officer stated they were traveling at half the speed while entering the station and gave the operator the instruction to alight through the station to provide a cushion for trains operating behind them.
- The RTRA Quality Control Officer stated that upon approach and passing through the station they observed what appeared to be a WMATA employee at the end of the platform wearing a high visibility coat.
- The RTRA Quality Control Officer stated they thought the employee was waiting for a revenue train and did not realize that they may have been an AMF. The Train Operator further stated that there was nothing to indicate that the employee was in the performance of any AMF duties.

#### **Office of Track and Structures (TRST)**

TRST's internal investigation found that the AMF violated several prescribed actions for performing the duties of the position. The employee received discipline in accordance with the Collective Bargaining Agreement and was assigned to retraining.

#### **Weather**

On January 12, 2023, at the time of the incident, NOAA recorded the temperature as 52° F, with overcast skies throughout the morning. Weather was not a contributing factor in this incident (Weather source: NOAA) – Location: (Rockville, MD.)

#### **Related Rules and Procedures**

- MSRPH Operating Rule 3.87
- Rail Vehicle Operating Procedures During AMF “3”
- MSRPH AMF Script to Operators: *“There may be multiple work groups ahead. Proceed at half your regulated speed until you reach the next station. Continuously blow your horn. Reduce speed to 15 mph when observing and passing all work crews. Current AMF procedures govern you.”*
- MSRPH 5.13.6.3 - The AMF is required to follow PPE guidelines per the Minimum PPE Standard for On-Track Safety in the MSRPH Section 5 - RWP.

Safety Equipment and Devices – Mobile Work Crew

Safety Equipment and Devices – Mobile Work Crew	Advanced Mobile Flagger	Watchman/ Lookout	Roadway Worker in Charge (RWIC)
Whistle	R	R	R
Air Horn	R	R	R
Orange Flag	R	NA	NA
Amber Lantern/E-Flares	R	NA	NA
Hot Stick/VAD	NA	NA	AR
High-Voltage Electrical Safety Gloves	NA	NA	AR
Certified Radio/Cell Phone	R	AR	R
Watch	R	R	R

- MSRPH 5.13.6.14 - If ANY Rail Vehicle fails to stop at the AMF's location and is proceeding towards the Mobile Work Crew, the AMF must IMMEDIATELY contact the RWIC and advise them to clear all personnel from the Roadway, alerting them to the approaching rail vehicle. If the RWIC does not acknowledge the AMF's alarm to the approaching rail vehicle, the AMF shall warn the work crew utilizing their air horn and whistle in short rapid blasts. The incident must also be reported to ROCC, at the first available opportunity, and an investigation by SAFE shall be completed.

**Human Factors**

Fatigue

Evidence of Fatigue – Advanced Mobile Flagger

Incident data was evaluated for fatigue risk factors. There were no major risk factors for fatigue identified. The incident time of day (11:04 hours) does not suggest an increased risk of fatigue-related impairment. The employee worked a regular schedule without alternating shifts in the week leading up to the incident. Based on reported bed and wake times, the employee slept a calculated total of 7 hours in the last sleep period preceding the incident and was awake for 6 hours at the time of the incident. The off-duty period preceding the incident was 16 hours long, which provided the opportunity for 7 hours of sleep. The employee reported usual workday sleep durations of 8 hours and no issues with sleep.

Post-Incident Toxicology Testing

Post-incident toxicology testing determined that the AMF was in compliance with the Drug and Alcohol Policy and Testing Program 7.7.3/6.

## **Findings**

- Train ID 800 did not receive an AMF briefing at Rockville Station.
- The AMF did not adequately display the AMF equipment (flag, lantern).
- The AMF did not follow the procedure to notify the mobile work crew of an oncoming train that was not briefed.
- No announcement was made on OPS1 from the RTC Radio advising Train Operators of track personnel walking from Twinbrook to Rockville.

## **Immediate Mitigation to Prevent Recurrence**

- Work crew was positioned in a place of safety.
- Track Inspection was canceled.
- AMF was removed from service.
- Safety Bulletin 23-01B was issued to all personnel

## **Probable Cause Statement**

The probable cause for this Improper RWP event was the failure of the AMF to perform in accordance with established RWP procedures.

## **Recommended Corrective Actions**

<b>Corrective Action Code</b>	<b>Description</b>	<b>Responsible Party</b>	<b>Estimated Completion Date</b>
105476_SAFE CAPS_TRST_ 001	AMF will be re-trained following the guidelines of the MSRP sections 1.1, 1.3, 5.1.1 and 5.12.3.	TRST	Completed
105476_SAFE CAPS_TRST_ 002	Conduct Safety briefings to include and focus on the reading of Safety Bulletin SB-23-013 – RWP Awareness.	TRST	Completed

## Appendices

### **Appendix A – Interview Summary**

*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.*

#### Track Walker B (AMF):

The Track Walker is a WMATA employee with three years of service and three years of experience as a Track Walker. The Track Walker holds a Roadway Worker Protection (RWP) Level 4 certification that expires in August 2023.

The AMF stated that the crew started off with their daily meeting with the supervisor briefing the crew on the daily workload. The AMF stated that the crew separates for a briefing by the RWIC, including safety briefings, equipment inventory, assignments, and times to report at each station. The AMF stated they responded to Twinbrook Station after the safety briefing, set up their equipment, and awaited the arrival of the work crew on the Platform. The AMF stated that upon the safe arrival of the crew at Twinbrook they entered the next train to Rockville, followed the same process, and radioed to the crew that they were in place. The AMF stated that upon their arrival and set up on the platform at Rockville Station, two or three trains passed their location and were briefed with instructions without issue. The AMF stated, to pass time and to stay alert they may walk side to side to keep warm. The AMF stated that their light (lantern) was on, their flag and helmet was on the concrete slab behind the eight-car marker, and were standing off the platform, not on the edge of the platform waving the trains down. The AMF stated that they observed a train entering the station at a normal speed relative to previous trains entering the station, so they assumed that the operator saw them and was preparing to stop. The AMF stated they waited for the train to stop to be briefed at the eight-car marker, but they continued through the station without stopping to get briefed. The AMF stated that after the train rolled through the station without being briefed, they transmitted over the radio (OPS1) to their RWIC that a train is on the way. The AMF stated that another train followed shortly after and was briefed at the eight-car marker. The AMF stated that while briefing the berthed train a radio transmission from central came over OPS1 to verify their position and if the proper equipment was in place to which the train operator verified. The AMF stated that the work crew received a call to cease all operations and return to the platform (Rockville). The AMF stated that they had all of their required equipment which was verified by their RWIC. The AMF stated upon their arrival at a designated station, they may text/call or radio the RWIC to provide their location for the RWIC to begin the process of requesting foul time or AMF protection. The AMF stated that they have a magnetic lantern device that they place on the top of the metal gate (roadway gate) as opposed to the ground for better visibility for train operators to see. The AMF stated that the lantern was operable and had no further issues from operators whom they briefed at the eight-car marker.

The AMF was asked if they know the procedure for a train passing through the station. They believed it was to transmit “emergency, emergency” if a train blows through at a high rate of speed but felt the train was moving at a slow pace with their horn activated and was baffled as to why they didn’t stop.

Track Walker A (RWIC):

The Track Walker is a WMATA employee with nine years of service and nine years of experience as a Track Walker. The Track Walker holds a Roadway Worker Protection (RWP) Level 4 certification that expires in July 2023.

The RWIC stated they conducted a safety briefing of all personnel assigned to them on that day. The RWIC stated that all personnel were visually inspected and equipped with the needed PPE to perform their duties upon turn-out. The RWIC stated that they further checked all their assigned personnel on each platform to ensure all PPE was in place and utilized. The RWIC stated that the AMF assigned to their work crew had and used all the required PPE while performing their duties. The RWIC stated that they observed the AMF when they arrived at Rockville station and observed the RWIC utilizing all the proper PPE. (Observed on CCTV). The RWIC stated that they observed a non-revenue train that passed their work crew at half the regulated speed. The RWIC further stated they heard an active horn activation from the operator and Supervisor which they assumed was briefed by the AMF. The RWIC was notified of the inconsistency in their statement that contradicts the CCTV footage and reported events by train operators. The RWIC reiterated that they followed all protocols of inspection during their safety briefing with crew members when questioned by the WMSC.

RTRA Quality Control Officer:

The Train Operator (RTRA Quality Control Officer) is a WMATA employee with twenty years of service and nine years of experience as a Train Operator (RTRA Quality Control Officer). The Train Operator holds a Roadway Worker Protection (RWP) Level 4 certification that expires in July 2023.

The RTRA Quality Control Officer stated at 11:10 hours that they and probationary train operator began their main line exercises at Shady Grove where they had an AMF to instruct and brief them on a road crew performing inspections between Shady Grove and Rockville. The Quality Control Officer further stated that they followed the RWP procedures en route to Rockville. The RTRA Quality Control Officer stated they activated the horn with two horn blasts in while passing personnel on track#1 leaving Shady Grove. The RTRA Quality Control Officer stated they were traveling at half the speed while entering the station and gave the operator the instruction to light (bypass) through the station to provide a cushion for trains operating behind them. The RTRA Quality Control Officer stated that upon approach and bypassing through the station they observed what appeared to be a WMATA employee at the end of the platform wearing a high visibility coat. The RTRA Quality Control Officer stated they thought the employee was waiting for a revenue train and did not realize that they may have been an AMF. The Train Operator further stated that there was nothing to indicate that they were in the performance of any AMF duties. The RTRA Quality Control Officer stated they bypassed the station at twenty-five miles an hour, with horn activation, and when they got midway to Twinbrook they observed personnel on the roadway. The RTRA Quality Control Officer reiterated that they were not briefed by any personnel on the Rockville platform and were only able to see the personnel because the train was traveling on a straight track. The RTRA Quality Control Officer stated upon discovery of the track personnel on track one they followed normal procedures upon clearing the personnel on track#1. The RTRA Quality Control Officer stated that after reversing ends and traveling back to Rockville station they observed the same nonperformance of duties by the AMF. The RTRA Quality Control Officer stated they notified the ROCC of the infraction and continued their normal duties.

**Appendix B – TRST Daily Safety Briefing:**


 <b>TEAM POWER</b> Department of Infrastructure	
<b>Daily Safety Brief</b>	
Department	TRST
Location	SHADY
Date	01/12/2023
Shift	7 - 3p.m.
Supervisor	#628
<b>Safety Contact</b>	
Review attached safety talk - "Safety Is Common Sense"	
<b>TRANSIT Values Contact</b>	
TRANSIT Value: "Trust"	
State the current TRANSIT value and give an example. Ask a team member what it means to them.	
<b>MSRPH 5.2.1 - RWP Cardinal Rules</b>	
Have your team members recite the RWP Cardinal Rules.	
<b>Roadway Worker Protection Levels</b>	
Review the RWP Protection Levels with your team members.	
[Redacted Signature]	

Figure 8 - TRST Safety Briefing for event date. Redacted section includes AMF's signature.



Appendix C – ROCC Incident Report

### View Approved Incident Report

**INCIDENT ID: 2023012RED3**

<b>DATE</b> 2023-01-12	<b>TIME</b> 1104	<b>LINE</b> Red	<b>ITEM</b> 3
<b>LOCATION (STATION/YARD)</b> Rockville (A14)	<b>LOCATION/CHAIN MARKER (If Applicable)</b>		<b>REPORTED BY</b> ██████████
<b>TRAIN ID</b> 800	<b>DIRECTION</b> I/B	<b>TRACK NUMBER</b> 1	<b>DEPTS NOTIFIED</b> Everbridge Alert/Messaging
<b>CAR NUMBERS (XXXX-XXXX)</b> Lead Car			
-	-	-	-
Caused Issue <input type="checkbox"/>	Caused Issue <input type="checkbox"/>	Caused Issue <input type="checkbox"/>	Caused Issue <input type="checkbox"/>
<b>TRBL CODE</b> RWPV-RWP VIOLATION	<b>RESP CODE</b> TRK		

**TYPE INCIDENT**  
RWP Violation

**ACTION PLAN**  
Remove Personnel from Service

DELAYS IN MINUTES			
LINE	INCIDENT	TRAIN	TOTAL DURATION
0	0	0	0

TRIPS MODIFIED					
PARTIAL	GAP TRAIN	LATE DISPATCHES	REROUTED	NOT DISPATCHED	OFFLOADS
0	0	0	0	0	0

FIVE PRIMARY CONSOLE INDICATIONS				
BCP	BRAKES ON ILLUMINATED	ALL DOORS CLOSED ILLUMINATED	AUTO\MANUAL ILLUMINATED	BPP
			AUTO	

INCIDENT CHRONOLOGY	
TIME	DESCRIPTION
11:04	██████████ reported an RWP violation track one in approach to Twinbrook. ██████████ was aboard Training Train 800 who was not briefed at Rockville track one by AMF ██████████. Track unit ██████████ was on the roadway walking between Twinbrook and Rockville track one at the time. Assistant Operations Manager, ROIC, Safety, and all other concerned personnel were notified.

Figure 9 - ROCC Incident Report Page 1 of 2



## View Approved Incident Report

1201 Track Unit [REDACTED] arrived at Rockville and his AMF [REDACTED] was removed from service pending investigation and transported for post incident analysis.

**MAXIMO TICKET#**  
8646107

REPORT PREPARED BY	NAME	CLICK TO SIGN
RADIO CONTROLLER 1	[REDACTED]	✓
BUTTON CONTROLLER 1		
RADIO CONTROLLER 2		
BUTTON CONTROLLER 2		

### SUPERINTENDENTS OR ASSISTANTS SECTION

**ADDITIONAL FOLLOW-UP CORRECTIVE ACTIONS OR REMARKS**

**FOLLOW-UP INFORMATION OBTAINED FROM SUPPORT DEPARTMENTS**

**NOTIFICATIONS/PAGE GROUPS** #1/CEO  #2/DGM & BELOW

**ADDITIONAL NOTIFICATIONS MADE BY PHONE** Rail 1 notified

APPROVED BY	NAME	CLICK TO SIGN
REPORT APPROVED BY SUPT. OR ASST SUPT.	[REDACTED]	✓

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Figure 10 - ROCC Incident Report Page 2 of 2

## Appendix D – AMF Incident Statement

Incident Date: 1/12/2023 Time: 11:04 hours  
Final Report – Improper RWP  
E23026

Drafted By: SAFE 706 – 03/09/2023  
Reviewed By: SAFE 71 – 03/10/2023  
Approved By: SAFE 71 – 03/13/2023

Page 22



**Witness or Employee Statement Form**  
 WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
 USE SEPARATE FORM FOR EACH PERSON

TO BE COMPLETED AND  
 DISTRIBUTED WITHIN 24 HOURS  
 Page of

PERSONNEL INVOLVED (Use This Block For WMATA Employees and Contractors)			
Name	Age	Employee # or MTRD Badge #	
[Redacted]			
Last Day Worked (prior to)			
1/12/23		Hours Worked (within last 24 hrs)	Overtime?
		8	NO
INVOLVED PERSON OR WITNESS (Use This Block For Non-WMATA Involved Person or Witness)			
Name	Phone Number	E-Mail	
Address			
INCIDENT			
Date	Incident Time	Date/Time Reported	Location
1/12/23	11:00		Rockville station
Incident ID# (From ROCC, BOCC, etc.)		Worksite Incident #	
What happened prior to the incident?			
AMF Train Break No problem.			
Describe the incident			
Amber light on, standing at 8 car chain marker, brief one train, second train (no passenger) came blowing thru + going 20 mph. Me thinking they was about to stop. I slowly walk to the edge of platform to warn them. Train proceeds to pass 8 car chain marker without stopping. Went over radio to Alert Crew train on the way.			
What happened after the incident?			
Finish backing trains, move to next station. Then cancel walk.			
Form Completed by: (Print Name)			Date
[Redacted]			1/12/23
Signature			
[Redacted]			

50 689 10/09 Original: RISK Copy 1: Department Copy 2: SAFE Copy 3: Employee File Photocopy to Employee

Figure 11 - TRST AMF Incident Report

Incident Date: 1/12/2023 Time: 11:04 hours  
 Final Report – Improper RWP  
 E23026

Drafted By: SAFE 706 – 03/09/2023  
 Reviewed By: SAFE 71 – 03/10/2023  
 Approved By: SAFE 71 – 03/13/2023

M E M O R A N D U M



SUBJECT: AMF Violations

DATE: [REDACTED]

FROM: TRST [REDACTED]

TO: TRST [REDACTED]

On January 12, 2023, you were assigned as an Advanced Mobile Flagman (AMF) for a track inspection from A12 to A15, Track 1. While you were in position at the eight-car marker on the platform at A14, a train operator entering the station failed to stop her train to receive a briefing from you as to the inspection crew on the roadway ahead. When the train failed to stop, you radioed the crew's RWIC to warn of the approaching train.

This incident was immediately placed under investigation by the department. Video footage from A14 shows that you did not have the required orange warning flag in your hands when the train in question comes through the station. During the interview process, you indicated that your orange flag, along with your helmet, was sitting on the concrete barrier next to the roadway access gate at the time. You further acknowledged that you never picked up the flag to signal the train to stop and that you believed the train was going to stop "until they were right up on me."

Based on these facts, you are found to be in violation of the following MSRP rules:

**Cardinal Rule Section 1.1:** All employees of WMATA, regardless of rank or title, shall be knowledgeable of the rules set forth in this manual that apply to the actions that they take, as well as rules and procedures contained in documents pertaining to their specific work assignments. The Roadway Worker in Charge (RWIC) and/or Escort shall be responsible for ensuring WMATA contractors and visitors abide by the rules set forth in this manual as it pertains to specific work assignments.

**Cardinal Rule Section 1.3:** Acceptance of employment signifies the individual's willingness to comply with all WMATA rules, regulations and orders; and to perform specific job duties and requirements in a safe, orderly and efficient manner.

**Section 5.1.1 Zero Tolerance Policy:** WMATA has a "Zero Tolerance" policy regarding safety infractions. As a condition of employment with the Authority, all Roadway personnel, regardless of rank or title shall acknowledge, comply with and be knowledgeable of the rules and procedures set forth in this section. Failure of Roadway personnel to abide by WMATA rules, procedures, regulations that intentionally compromise safety will result in disciplinary actions that may

Washington  
Metropolitan Area  
Transit Authority

Figure 12 TRST Investigative Report PG-1

lead to termination from service.

**Section 5.12.3 AMF Stop Hand Signal:** Signal rail vehicle operator to stop at the station platform by waving the orange flag back and forth across your body. The AMF shall continue this action until the rail vehicle comes to a complete stop.

**Section 5.13.6 Advanced Mobile Flagging (AMF) – Mobile Work Crew:**

\*\*\*

Advance Mobile Flagging Procedures:

6. Once the AMF has taken their position on the platform ahead of the Mobile Work Crew, they will turn on and place their Flashing Amber Lantern/E-Flare into its base and position it at the end of the platform (8-car marker or end gate area) in the direction of Rail Vehicle movement, on the track their crew is inspecting or working on. The AMF must always hold the Orange Flag in their hand while they are on duty.

12. As the Class 1 or 2 Rail Vehicle approaches, the AMF is to present the Orange Flag toward the Rail Vehicle operator and confirm the Amber Lantern/E-Flare is visible to ensure the Class 1 or Class 2 Vehicle comes to a complete stop at their location.

The sole responsibility of an AMF is to warn train operators of a work crew ahead on the roadway. This requires ensuring that all trains stop at the applicable eight-car marker and all operators are read the scripted AMF briefing. The AMF should be holding an orange warning flag. The flag, along with the amber light, is an indicator to the operator that AMF protection is in place and he/she needs to stop the train at the eight-car marker.

A review of your personnel file indicates you were hired on August 1, 2019, and that you have not received any prior discipline.

Based on the rule violations cited above, you are being issued a three (3) day suspension. This suspension will be served on [REDACTED]. You are expected to return to your regularly assigned shift on [REDACTED]. In addition, you will be required to attend applicable RWP reinstruction.

This suspension will become a part of your permanent record. Please understand that any further violations of Authority rules may result in additional discipline, up to and including termination.

Your signature does not indicate that you are in agreement, rather it is an

Figure 13 TRST Investigative Report PG-2

acknowledgement that you have read and understand what is contained herein.

   
Date  
  
Management Signature Date

Please check \_\_\_ (yes) or  (no) if you voluntarily elect to utilize earned vacation in lieu of unpaid time off. Should you elect to use earned vacation, pursuant to Section 104(d) of the collective bargaining agreement, you waive the right to file a grievance under Section 104(a) and (b).

cc:





Figure 14 TRST Investigative Report PG-3

**Appendix F – SAFE – Safety Bulletin SB 23-013 – RWP Awareness – 01-13-23**



## Roadway Worker Protection Awareness

### OVERVIEW/DESCRIPTION

Roadway Worker Protection (RWP) provides personnel with a uniform method of establishing on-track protection while minimizing dangers and hazards associated with working on the roadway. It is vitally important that all personnel involved in RWP, including Roadway Workers, Rail Vehicle Operators (RVO), and Rail Traffic Controllers (RTC), know and understand the various forms of RWP being provided.

The three RWP violations that occurred this past week include the following:

- **Foul Time Communication:** On January 11<sup>th</sup>, a power unit requested Foul Time (FT) to access the power room on the Track 2 side of the Columbia Heights station. The RTC instructed them to stand by / stand clear for a train to pass. The power unit did not receive FT permission but radioed to ROCC that they would advise when they were clear of the FT area and then proceeded to the roadway. Poor communication between the unit and RTC was a contributing factor.
- **Advanced Mobile Flagger:** On January 12<sup>th</sup>, a non-revenue train bypassed the Rockville station, where an Advanced Mobile Flagger (AMF) was stationed. A train reported to the ROCC that the AMF was not adequately equipped nor flagged the train to stop at the platform. The AMF's situational awareness and adherence to AMF guidelines appear to be contributing factors.
- **Foul Time:** On January 13<sup>th</sup>, an Automatic Train Control (ATC) unit performing a survey failed to request FT at hot spot A1-788+00 to A1-795+00. The preliminary contributing factor was the roadway worker in charge's (RWIC) failure to review the MSRPH's Access Guide before roadway entry and traversing a hot spot.

### DETAILS AND ACTIONS

The following categories apply to the above events:

#### Advanced Mobile Flagger (AMF) Procedures

- AMFs must be placed at the station immediately ahead of the direction the work crew is traveling. The RWIC must verify that the AMF is in place before entering the roadway.
- AMFs must brief every rail vehicle (revenue and non-revenue) that approaches their location. It is the RVO's responsibility to ensure they receive all necessary instructions before proceeding.
- RVOs must proceed at half the regulated speed until they observe the work crew, where they will reduce their speed to 15 mph. After the rear of the rail vehicle passes the entire work crew, the RVO may resume to half the regulated speed until they reach the next station.

< continues on next page >

Figure 15 SAFE -Safety Bulletin SB 23-013 PG-1

### Foul Time (FT) Rule Review

- The following is an FT rule review per [Permanent Order \(PO\) T-22-23](#):  
**FT Definition:** A method of establishing working limits on controlled track when the work will not disturb the track or third rail structure that prevents movements at normal speeds. The RTC notifies the qualified roadway worker that no trains will operate within a specific segment of controlled track until the roadway worker reports clear of a hot spot or track.
- Work allowed under FT includes, but is not limited to, inspections, minor repairs or maintenance, and testing.
- The person requesting FT must contact the RTC and provide the following:
  - Department (when applicable) and their radio call number,
  - Track designation (line and track number),
  - Track limits (chain marker(s)),
  - Reason for requesting FT, and
  - Time limits.
- After recording this information on the appropriate form and repeating the request, the RTC must:
  - Ensure no trains or other on-track equipment is occupying or has been authorized to occupy the track segment to be fouled.
  - Ensure stop indications have been displayed and blocking devices (including technological solutions) have been applied to control switches and signals leading to and within the affected track.
- The RTC will contact the employee who requested FT, provide permission to foul the track, and include the following in their transmission:
  - Department (when applicable) and radio call number of the employee requesting FT,
  - Track designation (line and track number),
  - Track Limits (chain marker(s)),
  - Time Limits, and
  - Time Effective.
- The employee requesting FT must repeat this permission. FT must not be considered effective until the RTC has confirmed positive repeat back.
- Supplemental Shunting Devices (Shunts) must be applied when equipment is used to foul a track in signaled territory or within interlocking limits for more than five (5) minutes.

### Resources

All RWP rules and procedures can be found in their entirety in Section 5 of the [Metrorail Safety Rules and Procedures Handbook \(MSRPH\)](#), which is available on MetroDocs.

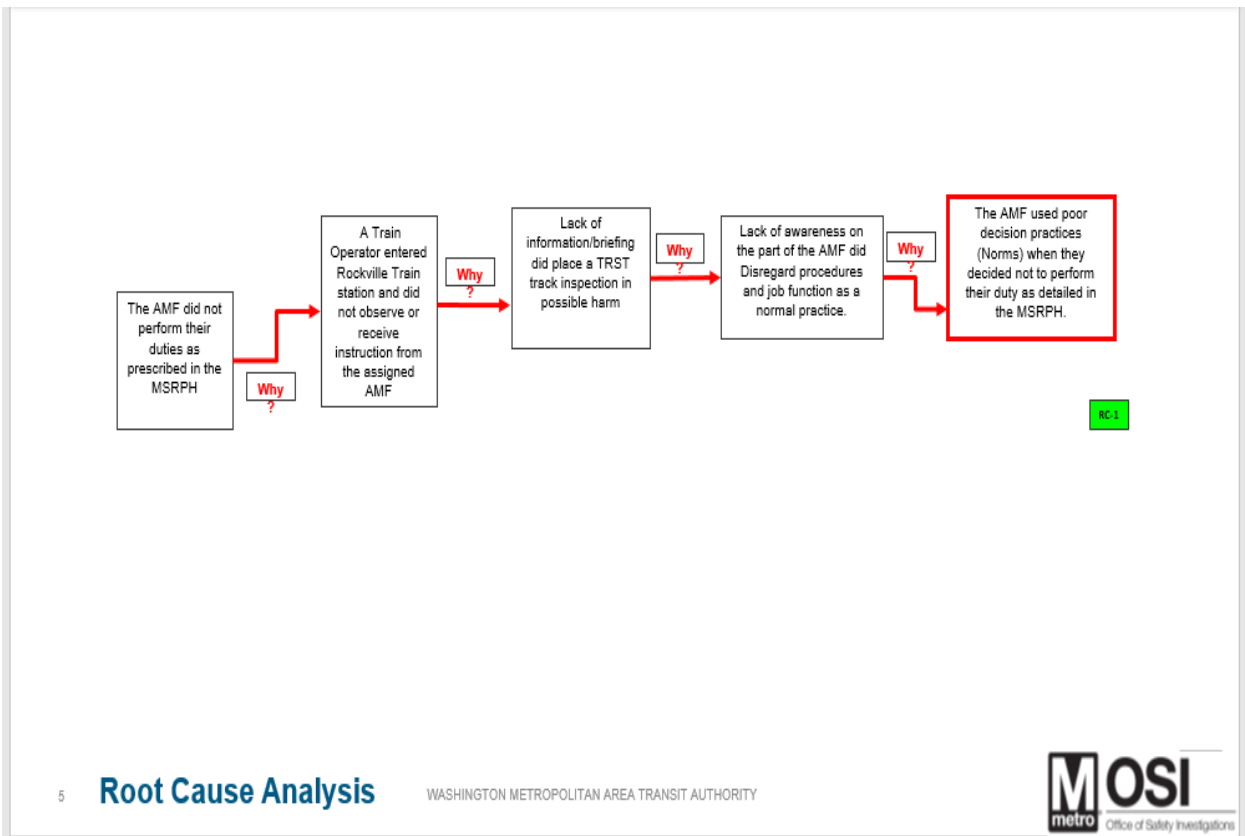
*For questions regarding this Safety Bulletin or other safety-related issues, contact the Safety Hotline at 202-249-SAFE (7233).*



Figure 16 SAFE - Safety Bulletin - SB 23-013 PG-2



# Appendix G - Root Cause Analysis





Washington Metropolitan Area Transit Authority  
Department of Safety (SAFE)  
Office of Safety Investigations (OSI)  
**FINAL REPORT OF INVESTIGATION A&I E23027**

<b>Date of Event:</b>	January 13, 2023
<b>Type of Event:</b>	O-23, Improper RWP
<b>Incident Time:</b>	10:05 hours
<b>Location:</b>	Near Rockville Station, Chain Marker A1 788+00
<b>Time and How received by SAFE:</b>	10:30 hours, Mission Assurance Coordinator (MAC)
<b>WMSC Notification Time:</b>	11:54 hours
<b>Responding Safety Officers:</b>	None
<b>Rail Vehicle:</b>	None
<b>Injuries:</b>	None
<b>Damage:</b>	None
<b>Emergency Responders:</b>	None
<b>SMS I/A Incident Number:</b>	20230115#105503

Near Rockville Station. CM A1 788+00 – Improper RWP

January 13, 2023

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## Abbreviations and Acronyms

<b>AIMS</b>	Automated Information Management System
<b>AMF</b>	Advanced Mobile Flagger
<b>AOM</b>	Assistant Operations Manager
<b>ARS</b>	Audio Recording System
<b>ATCM</b>	Automatic Train Control Maintenance
<b>CAP</b>	Corrective Action Plan
<b>CCTV</b>	Closed-Circuit Television
<b>CM</b>	Chain Marker
<b>COMR</b>	Office of Radio Communication
<b>FT</b>	Foul Time
<b>MSRPH</b>	Metrorail Safety Rules and Procedures Handbook
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>OM</b>	Operations Manager
<b>RJSB</b>	Roadway Job Safety Briefing
<b>RTC</b>	Rail Traffic Controller
<b>RTRA</b>	Office of Rail Transportation
<b>ROCC</b>	Rail Operations Control Center
<b>RWIC</b>	Roadway Worker In-Charge
<b>RWP</b>	Roadway Worker Protection
<b>SAFE</b>	Department of Safety
<b>SMS</b>	Safety Measurement System
<b>WMATA</b>	Washington Metropolitan Area Transit Authority
<b>WMSC</b>	Washington Metrorail Safety Commission

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

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**Executive Summary**

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

On January 13, 2023, at 10:02 hours, the Roadway Worker In-Charge (RWIC), leading a mobile work crew of Automatic Train Control Maintenance (ATCM) personnel, were granted access to the Roadway for a track survey of Track 1, from Chain Marker (CM) A1 787+00 to 800+00 by the Radio Rail Traffic Controller (RTC). The mobile work crew accessed the roadway by train drop off at CM A1 787+00. Prior to accessing the roadway, the RWIC verified that their Advanced Mobile Flagger (AMF) was in position at the Eight Car Marker of Rockville Station. The train drop off was completed without incident at 09:59 hours.

At 10:29 hours, the RWIC advised the Radio RTC that the work crew was clear of the roadway and on the platform of Rockville Station. The RTC observed that the RWIC did not request Foul Time (FT) at a listed hot spot location between CM 788+00 to 795+00. The area is designated as a “Restricted View: Curve” in the Track Access Guide. The RWIC was instructed to contact ROCC by telephone.

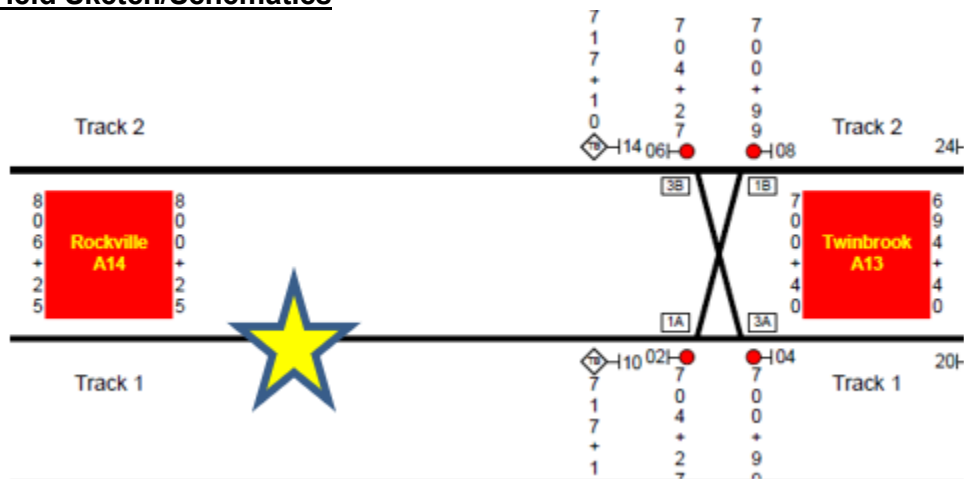
At 10:31 hours, the Assistant Operations Manager (AOM) notified the Operations Manager (OM) of the RWP violation. At 10:32 hours, the RWIC contacted the ROCC and was advised of their RWP violation. No Near Miss events or injuries were reported.

The probable cause of the Improper Roadway Worker Protection (RWP) event on January 13, 2023, was a human factors error to review and observe all Red Hot Spots prior to conducting a Roadway Job Safety Briefing. This oversight by the RWIC and failure to issue a Good Faith Challenge by the work crew resulted in the work crew walking through the Restricted View: Curve without required Foul Time.

## Incident Site

Rockville station - Track 1, Chain Marker A1- 788+00

## 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 video and documents review.
- Formal Interviews – SAFE interviewed three individuals as part of this investigation. Interviews 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 RWIC
  - ATCM Watchman Lookout
  - ATCM Advanced Mobile Flagger (AMF)
- Documentation Review – A collection of relevant work history information and process documentation contained in Metro systems of record. These records include:
  - Metrorail Safety Rules and Procedures Handbook (MSRPH)
  - National Oceanic and Atmospheric Administration (NOAA)
  - Roadway Worker Protection Quick Access Guide
  - Employee 30-Day work history review
- System Data Recording Review – A collection of information contained in Metro Data Recording Systems. This data includes:

Incident Date: 01/13/2023 Time: 10:05 hours  
Final Report – Improper RWP  
E23027

Drafted By: SAFE 710 - 03/04/2023  
Reviewed By: SAFE 71 – 03/14/2023  
Approved By: SAFE 71 – 03/14/2023

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- Audio Recording System (ARS) playback including OPS 1 Radio and Phone.

## Investigation

On January 13, 2023, at 10:02 hours, the RWIC leading a mobile work crew of ATCM personnel, was granted access to the roadway for a track survey of track 1, from CM A1 787+00 to 800+00 by the Radio RTC. The mobile work crew accessed the roadway by train drop off at CM A1 787+00. Prior to accessing the roadway, the RWIC verified that their AMF was in position at the Eight-Car Marker of Rockville Station. The train drop off was completed without incident at 09:59 hours.



Figure 1 – ATCM on the platform at Rockville Station boarding Train ID 115 to be dropped off at CM A1 787+00.



Figure 2 – ATCM crew surveying in the Restricted View: Curve area between CM 788+00 and 795+00.

At 10:29 hours, the RWIC advised the Radio RTC that the work crew was clear of the roadway and on the platform of Rockville Station. The RTC observed that the RWIC did not request FT at a listed hot spot location between CM 788+00 to 795+00. The area is designated as a “Restricted View: Curve” in the Track Access Guide. The RWIC was instructed to “landline” ROCC. A review of the Closed-Circuit Television (CCTV) revealed the ATCM crew surveying on the roadway in the Restricted View: Curve area.

According to the ARS phone playback at 10:31 hours, the AOM notified the OM of the RWP violation. At 10:32 hours, the RWIC contacted the ROCC and was advised of their RWP violation. No Near Miss events or injuries were reported.





WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK

A-Line Track 1 – Metro Center to Shady Grove						
A-Line Track 1	Station	Station	Chain Marker	Chain Marker	Max Speed	Notes
Restricted View: Curve	A-09	A-10	395+00	405+00	50	
Clear View	A-09	A-10	405+00	428+00	75	
Restricted View: Curve	A-09	A-10	428+00	433+00	75	
Clear View	A-09	A-10	433+00	440+00	75	
Interlocking	A-09	A-10	440+00	444+00	55	
<b>Medical Center Station</b>	<b>A-10</b>	<b>A-10</b>	<b>444+00</b>	<b>450+00</b>	<b>50</b>	
Clear View	A-10	A-11	450+00	468+00	75	
Restricted View: Curve	A-10	A-11	468+00	506+00	75	
<b>Portal</b>	<b>A-10</b>	<b>A-11</b>	<b>506+00</b>	<b>512+00</b>	<b>75</b>	
355 Corridor Aerial	A-10	A-11	512+00	516+00	75	
355 Corridor Aerial/Safety Walk	A-10	A-11	516+00	546+20	75	
Clear View	A-10	A-11	546+20	562+70	55	
<b>Grosvenor Station</b>	<b>A-11</b>	<b>A-11</b>	<b>562+70</b>	<b>568+70</b>	<b>50</b>	
Clear View	A-11	A-12	568+00	581+00	50	
Clear View: Slight Curve	A-11	A-12	581+00	590+00	75	
Clear View	A-11	A-12	590+00	599+00	75	
Restricted View: Uphill Grade	A-11	A-12	599+00	609+00	75	
Clear View	A-11	A-12	609+00	619+00	75	
Clear View: Slight Hill Crest	A-11	A-12	619+00	635+50	75	
<b>North Bethesda Station</b>	<b>A-12</b>	<b>A-12</b>	<b>635+50</b>	<b>641+50</b>	<b>50</b>	
Restricted View: Curve	A-12	A-13	641+50	650+00	55	
Clear View	A-12	A-13	650+00	662+00	65	
<b>Blind Spot: Portal</b>	<b>A-12</b>	<b>A-13</b>	<b>662+00</b>	<b>677+00</b>	<b>65</b>	
Clear View	A-12	A-13	677+00	680+00	65	
Restricted View: Curve	A-12	A-13	680+00	690+00	65	
Clear View	A-12	A-13	690+00	694+00	45	
<b>Twinbrook Station</b>	<b>A-13</b>	<b>A-13</b>	<b>694+00</b>	<b>700+00</b>	<b>45</b>	
Interlocking	A-13	A-14	700+00	705+00	50	
Restricted View	A-13	A-14	705+00	711+00	50	
Clear View	A-13	A-14	711+00	768+00	75	
Restricted View: Curve	A-13	A-14	788+00	795+00	75	
Clear View	A-13	A-14	795+00	800+00	50	
<b>Rockville Station</b>	<b>A-14</b>	<b>A-14</b>	<b>800+00</b>	<b>807+00</b>	<b>50</b>	
Restricted View: Curve	A-14	A-15	807+00	828+00	75	
Clear View	A-14	A-15	828+00	905+00	75	
Restricted View: Curve	A-14	A-15	905+00	920+00	75	

Figure 3 - Track Access Guide - Red Line Track 1

## Chronological Event Timeline

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

Time	Description
09:52:02 hours	ATCM RWIC contacted Radio RTC requesting to enter the roadway for survey purposes, but communication was distorted. [radio]
09:53:34 hours	ATCM RWIC made a 2 <sup>nd</sup> attempt to contact the Radio RTC requesting to enter the roadway for survey purposes. [radio]
09:54:43 hours	ATCM RWIC was granted permission to be dropped off at CM A1 787+00 by Train ID 115. [radio]
09:59:29 hours	ATCM RWIC reported that the work crew was clear from Train ID 115 and standing in a place of safety. [radio]
10:02:21 hours	ATCM AMF reported that they were in place on the platform and ATCM RWIC was granted permission to enter the roadway. [radio]
10:29:31 hours	ATCM RWIC reported that the crew was on the platform at Rockville Station, then was instructed to contact ROCC via landline. [radio]
10:31:00 hours	AOM notified OM of RWP violation. [phone]
10:32:18 hours	ATCM RWIC contacts ROCC; ROCC notified ATCM RWIC of the RWP violation. [phone]

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

## Automated Information Management System (AIMS)



Figure 4 - Train ID 115 at CM A1 787+00

## Office of Systems Maintenance, Office of Radio Communications (COMR)

The Office of Radio Communications (COMR) conducted a comprehensive radio transmission and received operational checks between Twinbrook and Rockville Stations, track 1 & 2 and found no deficiencies.

## Interview Findings

Incident Date: 01/13/2023 Time: 10:05 hours  
 Final Report – Improper RWP  
 E23027

Drafted By: SAFE 710 - 03/04/2023  
 Reviewed By: SAFE 71 – 03/14/2023  
 Approved By: SAFE 71 – 03/14/2023

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*As part of the investigation launched into the event, SAFE interviewed three people. The interview 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.*

### RWIC

- The RWIC was notified of the RWP violation by the ROCC.
- They conducted a roadway job safety briefing prior to boarding a train to be dropped off at their work location. The RWIC stated they did not observe the Restricted View: Curve marked in the Track Access Guide prior to conducting the briefing

### AMF

- The AMF stated that they established radio contact with the work crew prior to beginning their duty assignment.
- They stated that no hot spots were discussed during the roadway job safety briefing.

### Watchman

- The Watchman stated that no trains approached them during their work and no Near Miss events occurred.
- They stated that the safety briefing took place on the station platform prior to being dropped off by the train.

### **Weather**

On January 13, 2023, at the time of the incident, NOAA recorded the temperature as 55°F. Weather was not a contributing factor in this incident (Weather source: NOAA) – Location: Washington, DC.)

### **Related Rules and Procedures**

#### MSRPH Rules 5.5 – Roadway Job Safety Briefing (RJSB)

3. All hazard(s) related to the location and tasks being performed are to be identified and discussed, including:
  - a. Unique site conditions to include all Red Hot Spots.

#### MSRPH Rules 5.13.3 – Roadway Hot Spots

3. RWICs shall review the Track Access Guide to determine all Hot Spots contained within their working limits and call out all RED HOT SPOTS during the RJSB.
4. When there are RED HOT SPOTS, FT protection from ROCC must be obtained prior to moving through the area.

## Human Factors

### Evidence of Fatigue

#### ATCM RWIC

We evaluated conditions at the time of the incident to distinguish whether evidence of fatigue was present. No sign of fatigue was indicated by the available data. The ATCM RWIC reported feeling fully alert at the time of the incident. The ATCM RWIC reported experiencing no symptoms of fatigue in the time leading up to the incident.

### Fatigue Risk

#### ATCM RWIC

We evaluated incident data for fatigue risk factors. Risk factors for fatigue were present. The incident time of day did not suggest an increased risk of fatigue-related impairment. The ATCM RWIC reported some variation in the sleep schedule in the days leading up to the incident. The ATCM RWIC performed day and night work in the days leading up to the incident. The employee was awake for 12.58 hours at the time of the incident. The employee reported 8 hours of sleep in the 24 hours preceding the incident. The off-duty period was 9.5 hours which provides an opportunity for 7-9 hours of sleep. This was more than a comparable amount of time than the employee's usual workday sleep durations. The employee reported no issues with sleep. The employee worked evenings/mornings in the days leading up to the incident.

### Post-Incident Toxicology Testing

WMATA's Drug and Alcohol Program determined that the ATCM RWIC complied with and was not in violation of the Drug and Alcohol Policy and Testing Program 7.7.3/6.

## Findings

- The work crew walked through a restricted curve view between CM 788+00 to 795+00 under AMF protection without Foul Time (FT).
- A Roadway Job Safety Briefing was conducted but no hot spot areas were identified.
- The RWIC reported that they reviewed the roadway worker protection quick access but missed the hot spot CM A1 788+00 to 795+00.

## Immediate Mitigation to Prevent Recurrence

- The ATCM RWIC was removed from service and underwent post-incident testing.

## Probable Cause Statement

The probable cause of the Improper Roadway Worker Protection (RWP) event on January 13, 2023, was a human factors error to review and observe all Red Hot Spots prior to conducting a Roadway Job Safety Briefing. This oversight by the RWIC and failure to issue a Good Faith Challenge by the work crew resulted in the work crew walking through the Restricted View: Curve without required Foul Time.

## **Recommended Corrective Actions**

<b>Corrective Action Code</b>	<b>Description</b>	<b>Responsible Party</b>	<b>Estimated Completion Date</b>
105503_SAFE CAPS_ATCM_ 001	ATCM personnel were issued and reviewed Safety Bulletin SB-23-01-B.	ATCM	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.*

#### **RWIC**

The WMATA employee has twelve (12) years of service with Automatic Train Control Maintenance (ATCM). They are RWP Level 4 certified with an expiration date of August 2023.

The ATCM employee's duty assignment was RWIC and mentioned feeling fully alert before the incident. The ATCM RWIC stated they completed a safety briefing form and conducted a safety briefing with the crew. Following the safety briefing, they were asked to enter the roadway via a train drop-off. The crew began surveying the area, working their way back to Rockville Station platform. The RWIC stated they arrived back on the platform at Rockville Station and notified the Radio RTC that they were clear of the roadway. The RTC requested the RWIC to contact ROCC via a landline. The RWIC stated they were informed that the crew walked through a restricted curve view location without being under FT. The RWIC referred to the quick access guidebook and noticed that they overlooked the restricted curve view location. The RWIC noticed when they were on the roadway that the work area had a curve but thought the guide access guidebook omitted CM A1 788+00 as a hotspot area. The RWIC stated they reviewed the quick access guidebook for any hot spots prior to the safety briefing and did not notice any hot spots in the requested work area.

#### **Watchman**

The WMATA employee has six (6) months of service with ATCM. They are RWP Level 2 certified with an expiration date of May 2023.

The ATCM employee's duty assignment was Watchman and mentioned feeling fully alert before the incident. The ATCM Watchman stated that a safety brief was conducted on the platform. When the safety briefing concluded the crew was dropped off at the requested CM 787+00. The Watchman established communication with the AMF and the crew began work. The Watchman stated they were positioned ahead of the crew watching for approaching trains. Lastly, the work was completed safely, no one was injured, and they cleared the roadway.

#### **AMF**

The WMATA employee has seventeen (17) years of service with ATCM. They are RWP Level 4 certified with an expiration date of March 2023.

The ATCM employee's duty assignment was AMF and mentioned feeling fully alert before the incident. The ATCM AMF stated that a safety briefing was conducted, and the crew signed the briefing documentation. The ATCM AMF stated no hot spots were discussed during the safety briefing. However, the ATMC AMF did recall seeing a sign on the platform end gate warning hot spots ahead [Note: Signs are for Train Operators, warning of Station Overrun hot spots]. At the conclusion of the safety briefing, the crew went to the roadway and the AMF stayed on the platform. The AMF stated that once the crew was on the roadway, they established communication with the watchman via the radio TA (Talk Around) channel.



# Appendix B – RJSB (Roadway Job Safety Briefing) (redacted)

**WMATA Roadway Job Safety Briefing Form**

This form must be completed legibly and accurately and be retained and made available for inspection for a period of 90 days.

**Part 1: General Job Briefing**

1	Date: <u>01/13/23</u>	Time: <u>09:30</u>	RWIC: <u>[REDACTED]</u>
	RWIC Call #: <u>[REDACTED]</u>	RWIC Cell Phone #: <u>[REDACTED]</u>	
2	Safety Contact: <u>ROCC</u>		
	RWP Rule: <u>Third rail is hot &amp; energized, and CR 1-7</u>		
3	Work Location: <u>A14 (Rockville)</u>		
	Job Task(s): <u>Track rail surveying @ CM A1 787+00 - 800+00</u>		
4	Worksite, Electrical, Chemical, or Environmental Hazards: <u>Third rail is hot i.e. 750Vdc</u>		
5	PPE Inspected: <input checked="" type="checkbox"/> Electronic Device Policy Reviewed: <input checked="" type="checkbox"/> Radio Certification Date Inspected: <input checked="" type="checkbox"/> RWP Stickers Inspected: <input checked="" type="checkbox"/> Tools and Equipment Inspected: <input checked="" type="checkbox"/> Radio Checks Performed: <input checked="" type="checkbox"/>		
	What Specialized PPE Will Be Used? <u>Hard hat, safety shoe, vest, flashlight</u>		
6	Emergency Response Plan: <u>Stay on a place of safety, and <sup>will</sup> contact ROCC / MOC. <sub>notify</sub></u>		

**Part 2: RWP Briefing:** This section must be filled out before any Roadway Workers enter the Roadway.

\*\*Track Time On/Off: 09:45 / 10:30, : / : , : / : \*\*

7	Rail Line: <u>A1 (Red)</u>	Track Number(s): <u>Track 1</u>	Track Access Guide (TAG) Speed:
	Working Limits Chain Markers: <u>A1 787+00 - 800+00</u>		
	OPS Radio Channel: <u>ops #1</u>	OPS Phone Number: <u>21546</u>	
	Place of Safety: <u>Fence side / platform</u>	Time Needed to Reach Place of Safety: <u>AR</u>	
	Are There Red Hot Spots Within Your Working Limits? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
	Red Hot Spot Chain Markers: <u>None</u>	Red Hot Spot Hazard(s): <u>None</u>	
8	Form of RWP: IT <input type="checkbox"/> ETO Authority <input type="checkbox"/> Local Signal Control <input type="checkbox"/> AMF <input checked="" type="checkbox"/> FT <input type="checkbox"/> RWP Notes: <u>- use your PPE properly</u> <u>- watch your steps, ties might be wet.</u>		
9	Advanced Mobile Flagger Call #(s) or Last Name(s): <u>2428 2152</u>		
	Advanced Mobile Flagger Placement: <u>A14 track 1 @ 8 cars mark</u>		
	Watchman/Lookout Placement: <u>ATC 2428</u>		
	Required Site Distance: <u>Soft</u>	Watchman/Lookout Rotation Schedule: <u>-</u>	
10	Will There be a Speed Restriction on the Adjacent Track? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
	How Will the Speed Restriction be Implemented? <u>None</u>		
11	Will Class 2 Vehicles be Part of the Working Limits? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
	# of Class 2 Vehicles: <u>None</u>	Type of Class 2 Vehicles: <u>None</u>	

FORM-SAFE-SRM-001-00 52.002 06/22

Figure 5 – Roadway Job Safety Briefing Form 1 of 2 pages.

Incident Date: 01/13/2023 Time: 10:05 hours  
 Final Report – Improper RWP  
 E23027

Drafted By: SAFE 710 - 03/04/2023  
 Reviewed By: SAFE 71 - 03/14/2023  
 Approved By: SAFE 71 - 03/14/2023



**WMATA Roadway Job Safety Briefing Form**



This form must be completed legibly and accurately and be retained and made available for inspection for a period of 90 days.

**Part 2: RWP Briefing, continued:**

12	Power Outage: Red Tag <input type="checkbox"/> Supervisory <input type="checkbox"/>		Hot Sticking Chain Markers:	
	Red/Supervisory Tag #:			
	Red/Supervisory Tag Holder:			
	Insulated Mat(s) Color Blue <input type="checkbox"/> Red <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Yellow <input type="checkbox"/>			
	WSAD Certification Due	WSAD Serial #/Asset ID	WSAD Certification Due	WSAD Serial #/Asset ID
	/ /	/ /	/ /	/ /
Will a Piggyback Crew(s) be Working Within Your Working Limits? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
13	Crew Leader/EIC Call #(s):		Piggyback Work Area Chain Markers:	
	Piggyback Work Assignment(s):			

**Part 3: Good Faith Challenge:** The following must be read aloud by the RWIC to the Roadway Workers.

"WMATA guarantees each Roadway Worker the right to challenge, in good faith, the effectiveness of the Roadway Worker Protection being provided. The Roadway Worker making the challenge, and those that are sympathetic to the challenge, shall remain clear of the roadway until the challenge has been resolved."

RWP Issues:	Worker Name(s):
Was the GFC Issue Resolved? Yes <input type="checkbox"/> No <input type="checkbox"/>	

**Part 4: Roadway Worker Acknowledgement**

"I understand and agree with all aspects of the Roadway Job Safety Briefing I just received. I am adequately protected from any train movement or roadway hazards. I understand I have a responsibility to conduct myself in a safe manner at all times."

**ROADWAY WORKERS HAVE THE RIGHT AND RESPONSIBILITY TO INITIATE A GOOD FAITH CHALLENGE WHEN NECESSARY**

Roadway Worker Signature	Employee ID #	Roadway Worker Signature	Employee ID #	Crew Leader/EIC Signature	Crew Leader/EIC Employee ID #

**Part 5: RWIC Signature(s)**

Additional RWIC Comments:		
RWIC Signature:	RWIC Employee ID #:	Date:
		01/13/23
Relieving RWIC Name:	Relieving RWIC Employee ID #:	
Relieving RWIC Signature:	Date/Time:	
	/ /	
Relieving RWIC Call #:	Relieving RWIC Cell Phone #:	

FORM-SAFE-SRM-001-00

Figure 5 – Roadway Job Safety Briefing Form 2 of 2 pages.

# Appendix C – ATCM Incident Reports (Redacted)

**M Initial Incident Form** TO BE COMPLETED AND DISTRIBUTED WITHIN 24 HOURS Page 1 of 1

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

**INCIDENT**

Date: 01/13/2023 Incident Time: 10:30 AM Date/Time Reported: 01/13/23 10:30 AM Worksafe Incident ID#

Location: Rockville Station (A14) Incident ID# (From ROCC, BOCC, etc.)

Type of Incident:

- Altercation
- Assault
- Derailment
- Elevator Entrapment
- Escalator
- External Complaint
- Fatality
- Fire
- First Aid Case
- Flood
- Gas Detection Alarm
- Hazardous Material Handling
- Internal Complaint
- Leak
- Medical Treatment
- Near Miss
- No Treatment
- Rupture or Spill
- Trespassing
- Vandalism
- Other: *safe*

**WMATA PERSONNEL INVOLVED**

Name: [Redacted] Age: [Redacted] Employee # or MTPD Badge # [Redacted]

Phone Number: [Redacted] Job Title: ATC B Department: ATC Division/Section: ATCM

Last Day Worked (prior to): 1/12/23 Hours Worked (within last 24 hrs): 8 hours Overtime?  Yes  No

**COMPLETE FOR INCIDENTS WITHIN THE RAIL SYSTEM:**

Train/Vehicle ID, Direction, Track #, Car/Vehicle Numbers, Trouble Code, Resp Code

Mezzanine #, AFC Equipment #, Escalator/Elevator #, Entrance, Platform, Track, Room#

**COMPLETE FOR INCIDENTS WITHIN THE BUS SYSTEM:**

Bus or Tag Number, Vehicle or Tag Number, Block Number, Roll Number

**DESCRIBE THE INCIDENT AND PROPERTY/EQUIPMENT DAMAGE**

This is ATC [Redacted] doing AMF in this today's job. We followed all the procedure. At the end of the job I was told that we haven't informed Central the restricted view. We will do better next time.

**PERSONAL AGENTS INVOLVED**

Police - Arrival Time: [Redacted] Other - Arrival Time: [Redacted]

Name, Badge Number, Complaint Number, Jurisdiction

Engine Number, Ambulance Number, Hospital

Form completed by (Signature), Date

Print name, Employee Number, Phone Number

Supervisor (Signature), Employee Number, Phone Number

Print name, Employee Number, Phone Number

50.688 04/06 Original: RISK Copy 1: Kiosk Copy 2: Department Photocopy to SAFE, Employee and other per Department requirements

Figure 6 – ATCM AMF statement

Incident Date: 01/13/2023 Time: 10:05 hours  
 Final Report – Improper RWP  
 E23027

Drafted By: SAFE 710 - 03/04/2023  
 Reviewed By: SAFE 71 – 03/14/2023  
 Approved By: SAFE 71 – 03/14/2023



**M Initial Incident Form TO BE COMPLETED AND**  
**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY DISTRIBUTED WITHIN 24 HOURS** Page 1 of 1

**INCIDENT**

Date: 01/13/23 Incident Time: 10:30 AM Date/Time Reported: 01/13/23 5:00 PM Worksafe Incident ID#

Location: A-14 Rockville Metro station Incident ID# (From ROCC, BOCC, etc.)

Type of Incident:

<input type="checkbox"/> Altercation	<input type="checkbox"/> External Complaint	<input type="checkbox"/> Gas Detection Alarm	<input type="checkbox"/> Medical Treatment	<input type="checkbox"/> Vandalism
<input type="checkbox"/> Assault	<input type="checkbox"/> Fatality	<input type="checkbox"/> Hazardous Material	<input type="checkbox"/> Near Miss	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Derailment	<input type="checkbox"/> Fire	<input type="checkbox"/> Handling	<input type="checkbox"/> No Treatment	
<input type="checkbox"/> Elevator Entrapment	<input type="checkbox"/> First Aid Case	<input type="checkbox"/> Internal Complaint	<input type="checkbox"/> Rupture or Spill	
<input type="checkbox"/> Escalator	<input type="checkbox"/> Flood	<input type="checkbox"/> Leak	<input type="checkbox"/> Trespassing	

WMATA PERSONNEL INVOLVED

Name: \_\_\_\_\_ Age: \_\_\_\_\_ Employee # or MIPD: \_\_\_\_\_ Badge# \_\_\_\_\_

Phone Number: \_\_\_\_\_ Job Title: ATCMD Department: ATC Division/Section: ATCM

Last Day Worked (prior to): 01/12/23 Hours Worked (within last 24 hrs): 8 hrs Overtime?  Yes  No

**COMPLETE FOR INCIDENTS WITHIN THE RAIL SYSTEM**

Train/Vehicle ID	Direction	Track #	Car/Vehicle Numbers	Incident Code	Resp Code
		01			
Mezzanine #	AFC Equipment #	Escalator/Elevator #	Entrance	Platform	Track

**COMPLETE FOR INCIDENTS WITHIN THE BUS SYSTEM**

Bus/Tag Number	Vehicle/Tag Number	Block Number	Run Number

DESCRIBE THE INCIDENT AND PROPERTY/EQUIPMENT DAMAGE

This is [redacted] I had OT from 6:30 to 12:30 @ A-14. I'm working with the other crew following the RWIC ATC [redacted] we had safety briefing and then I'm assigned as a watchman. After we get permission we entered to the roadway by dropoff of a train. I'm working my duty properly and left from roadway. By the time 11:37 I got a call from our superintendent to get information the location was hot spot. Following this I got email to fill this

See back side →

Police - Arrival Time: \_\_\_\_\_  Other - Arrival Time: \_\_\_\_\_

Name: \_\_\_\_\_ Badge Number: \_\_\_\_\_ Complaint Number: \_\_\_\_\_ Jurisdiction: \_\_\_\_\_

Engine Number: \_\_\_\_\_ Ambulance Number: \_\_\_\_\_ Hospital: \_\_\_\_\_

Form completed by (Signature): [redacted] Date: 01/13/23

Print name: [redacted] Employee Number: [redacted]

Supervisor (Signature): [redacted] Date: 01/13/23

Print name: \_\_\_\_\_ Employee Number: \_\_\_\_\_ Phone Number: \_\_\_\_\_

50.688 04/09 Original: RISK Copy 1: Kiosk Copy 2: Department Photocopy to SAFE, Employee and other per Department requirements

Figure 6 - ATCM Watchman Lookout statement

Incident Date: 01/13/2023 Time: 10:05 hours  
 Final Report – Improper RWP  
 E23027

Drafted By: SAFE 710 - 03/04/2023  
 Reviewed By: SAFE 71 - 03/14/2023  
 Approved By: SAFE 71 - 03/14/2023

**Initial Incident Form** TO BE COMPLETED AND DISTRIBUTED WITHIN 24 HOURS Page 1 of 1

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

**INCIDENT**

Date: 01/13/23 Incident Time: 10:30 AM Date/Time Reported: 01/13/23 10:30 AM Worksafe Incident ID#

Location: Rockville Station (A14) Incident ID# (From ROCC, BCCC, etc.)

Type of Incident:

- Altercation
- Assault
- Derailment
- Elevator Entrapment
- Escalator
- External Complaint
- Fatality
- Fire
- First Aid Case
- Flood
- Gas Detection Alarm
- Hazardous Material Handling
- Internal Complaint
- Leak
- Medical Treatment
- Near Miss
- No Treatment
- Rupture or Spill
- Trespassing
- Vandalism
- Other: Safety

WMATA PERSONNEL INVOLVED

Name: [Redacted] Age: [Redacted] Employee # or MTPD Badge # [Redacted]

Phone Number: [Redacted] Job title: ATC Tech/B Department: ATC Division/Section: ATCM

Last Day Worked (prior to): 01/12/23 Hours Worked (within last 24 hrs): 8 hrs Overtime?  Yes  No

COMPLETE FOR INCIDENTS WITHIN THE RAIL SYSTEM:

Train/Vehicle ID: [Redacted] Direction: [Redacted] Track #: 1 Car/Vehicle Numbers: [Redacted] Trouble Code: [Redacted] Resp Code: [Redacted]

Mezzanine #: [Redacted] AFC Equipment #: [Redacted] Escalator/Elevator #: [Redacted] Entrance: [Redacted] Platform: [Redacted] Track: [Redacted] Room#: [Redacted]

COMPLETE FOR INCIDENTS WITHIN THE BUS SYSTEM:

Bus or tag Number: [Redacted] Vehicle or tag Number: [Redacted] Block Number: [Redacted] Run Number: [Redacted]

DESCRIBE THE INCIDENT AND PROPERTY/EQUIPMENT DAMAGE:

This is ATC [Redacted], RWIC. I have requested ROCC to get access Track 1 CM A1 78700-80000. After I got permission, we, with a crew of seven including myself, went to the road way with track dropoff, and after that with ATC [Redacted] AMF protection the crew start surveying the area with ATC 2428 watchman. After they finish surveying the area, cleaned to the platform. I called ROCC & cleared roadway @ 10:30 AM. Then Central on land line told me that there was Restricted view.

Cont. to back side

Form completed by (Signature): [Redacted] Date: 01/13/23

Print name: [Redacted] Employee Number: [Redacted] Phone Number: [Redacted]

Supervisor (Print name): [Redacted] Employee Number: [Redacted] Date: 01/13/23

Print name: [Redacted] Employee Number: [Redacted] Phone Number: [Redacted]

50.688 04/09 Original: RISK Copy 1: Kiosk Copy 2: Department Photocopy to SAFE, Employee and other per Department requirements

Figure 6 - ATCM RWIC statement

Incident Date: 01/13/2023 Time: 10:05 hours  
 Final Report – Improper RWP  
 E23027

Drafted By: SAFE 710 - 03/04/2023  
 Reviewed By: SAFE 71 - 03/14/2023  
 Approved By: SAFE 71 - 03/14/2023

## Roadway Worker Protection Awareness

### OVERVIEW/DESCRIPTION

Roadway Worker Protection (RWP) provides personnel with a uniform method of establishing on-track protection while minimizing dangers and hazards associated with working on the roadway. It is vitally important that all personnel involved in RWP, including Roadway Workers, Rail Vehicle Operators (RVO), and Rail Traffic Controllers (RTC), know and understand the various forms of RWP being provided.

The three RWP violations that occurred this past week include the following:

- **Foul Time Communication:** On January 11<sup>th</sup>, a power unit requested Foul Time (FT) to access the power room on the Track 2 side of the Columbia Heights station. The RTC instructed them to stand by / stand clear for a train to pass. The power unit did not receive FT permission but radioed to ROCC that they would advise when they were clear of the FT area and then proceeded to the roadway. Poor communication between the unit and RTC was a contributing factor.
- **Advanced Mobile Flagger:** On January 12<sup>th</sup>, a non-revenue train bypassed the Rockville station, where an Advanced Mobile Flagger (AMF) was stationed. A train reported to the ROCC that the AMF was not adequately equipped nor flagged the train to stop at the platform. The AMF's situational awareness and adherence to AMF guidelines appear to be contributing factors.
- **Foul Time:** On January 13<sup>th</sup>, an Automatic Train Control (ATC) unit performing a survey failed to request FT at hot spot A1-788+00 to A1-795+00. The preliminary contributing factor was the roadway worker in charge's (RWIC) failure to review the MSRPH's Access Guide before roadway entry and traversing a hot spot.

### DETAILS AND ACTIONS

The following categories apply to the above events:

#### Advanced Mobile Flagger (AMF) Procedures

- AMFs must be placed at the station immediately ahead of the direction the work crew is traveling. The RWIC must verify that the AMF is in place before entering the roadway.
- AMFs must brief every rail vehicle (revenue and non-revenue) that approaches their location. It is the RVO's responsibility to ensure they receive all necessary instructions before proceeding.
- RVOs must proceed at half the regulated speed until they observe the work crew, where they will reduce their speed to 15 mph. After the rear of the rail vehicle passes the entire work crew, the RVO may resume to half the regulated speed until they reach the next station.

< continues on next page >

Figure 7 – Safety Bulletin SB-23-01-B page 1 of 2

## Foul Time (FT) Rule Review

- The following is an FT rule review per [Permanent Order \(PO\) T-22-23](#):

FT Definition: A method of establishing working limits on controlled track when the work will not disturb the track or third rail structure that prevents movements at normal speeds. The RTC notifies the qualified roadway worker that no trains will operate within a specific segment of controlled track until the roadway worker reports clear of a hot spot or track.
- Work allowed under FT includes, but is not limited to, inspections, minor repairs or maintenance, and testing.
- The person requesting FT must contact the RTC and provide the following:
  - Department (when applicable) and their radio call number,
  - Track designation (line and track number),
  - Track limits (chain marker(s)),
  - Reason for requesting FT, and
  - Time limits.
- After recording this information on the appropriate form and repeating the request, the RTC must:
  - Ensure no trains or other on-track equipment is occupying or has been authorized to occupy the track segment to be fouled.
  - Ensure stop indications have been displayed and blocking devices (including technological solutions) have been applied to control switches and signals leading to and within the affected track.
- The RTC will contact the employee who requested FT, provide permission to foul the track, and include the following in their transmission:
  - Department (when applicable) and radio call number of the employee requesting FT,
  - Track designation (line and track number),
  - Track Limits (chain marker(s)),
  - Time Limits, and
  - Time Effective.
- The employee requesting FT must repeat this permission. FT must not be considered effective until the RTC has confirmed positive repeat back.
- Supplemental Shunting Devices (Shunts) must be applied when equipment is used to foul a track in signaled territory or within interlocking limits for more than five (5) minutes.

## Resources

All RWP rules and procedures can be found in their entirety in Section 5 of the [Metrorail Safety Rules and Procedures Handbook \(MSRPH\)](#), which is available on MetroDocs.

*For questions regarding this Safety Bulletin or other safety-related issues, contact the Safety Hotline at 202-249-SAFE (7233).*



Figure 7 – Safety Bulletin SB-23-01-B page 2 of 2









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

**FINAL REPORT OF INVESTIGATION A&I E23067**

<b>Date of Event:</b>	January 29, 2023
<b>Type of Event:</b>	O-23: Improper Roadway Worker Protection (RWP)
<b>Incident Time:</b>	02:20 hours
<b>Location:</b>	Stadium Amory Station, Track 1 and 2
<b>Time and How received by SAFE:</b>	02:51 hours – Mission Assurance Coordinator (MAC)
<b>WMSC Notification Time:</b>	03:10 hours
<b>Responding Safety Officers:</b>	None
<b>Rail Vehicle:</b>	None
<b>Injuries:</b>	None
<b>Damage:</b>	None
<b>Emergency Responders:</b>	None
<b>SMS I/A Incident Number:</b>	20230130#105853

# Stadium-Armory Station, Track 1 and 2 – Improper RWP

January 29, 2023

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## Abbreviations and Acronyms

<b>AOM</b>	Assistant Operations Manager
<b>ARS</b>	Audio Recording System
<b>CAP</b>	Corrective Action Plan
<b>CCTV</b>	Closed-Circuit Television
<b>CM</b>	Chain Marker
<b>ETO</b>	Exclusive Track Occupancy
<b>GOTRS</b>	General Orders & Track Rights System
<b>MAC</b>	Mission Assurance Coordinator
<b>MOC</b>	Maintenance Operations Control
<b>MSRPH</b>	Metrorail Safety Rules and Procedures Handbook
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>PDC</b>	Power Desk Controller
<b>RTC</b>	Rail Traffic Controller
<b>RTRA</b>	Office of Rail Transportation
<b>ROCC</b>	Rail Operations Control Center
<b>RWIC</b>	Roadway Worker In Charge
<b>RWP</b>	Roadway Worker Protection
<b>SAFE</b>	Department of Safety
<b>SMS</b>	Safety Measurement System
<b>TRPM</b>	Traction Power Maintenance
<b>WMATA</b>	Washington Metropolitan Area Transit Authority
<b>WMSC</b>	Washington Metrorail Safety Commission

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

---

**Executive Summary**

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

On January 29, 2023, at 02:20 hours, an Office of Traction Power Maintenance (TRPM) Roadway Worker In Charge (RWIC) entered the roadway at Stadium-Armory Station without permission from the Rail Operation Control Center (ROCC) Radio Rail Traffic Controller (RTC).

Before the event, the RWIC contacted the Power Desk Controller (PDC) to request the activation of the supervisory tag on tracks D1 and D2 between Chain Markers (CM) 216+46 to 200+46 at 00:05 hours.

The RWIC contacted the Button RTC to request an extension on the pre-approved CM at 01:42 hours. The revised work zone request was to extend the work zone by 200 feet on one end and 100 feet on the other end (CM 218+46 to 199+46). The Radio RTC notified the RWIC the work area could not be extended. At 01:58 hours, the RWIC advised the PDC that they would be unable to complete their work with the current work zone setup.

The PDC informed the RWIC that they would have to cancel the work location and return the next day with the correct CM entered into the General Orders & Track Rights System (GOTRS). The RWIC requested that the PDC stand by before canceling the tag until they could contact their supervisor. After speaking with their supervisor, the RWIC reported that they would continue with their current work zone limits.

At 02:11 hours, the RWIC received Supervisory Tag 2023029712S from the PDC and was instructed to contact ROCC for permission to Hot-Stick<sup>1</sup>. The RWIC repeated the tag information and instruction to contact ROCC using 100% repeat back.

At 02:24 hours, the Radio RTC contacted the RWIC to verify if they were issued Exclusive Track Occupancy (ETO) and how it was issued. The RWIC reported that the PDC issued ETO. The Radio RTC requested a landline from RWIC to clarify their ETO protection. At 02:26 hours, the RWIC reported to the Button RTC that they were issued a Supervisory Tag from the PDC. While speaking with the Button RTC, the RWIC was asked if they were placing shunts. The RWIC responded that they made a mistake and went to the roadway to place shunts without ETO protection.

The RWIC and two crew members were removed from service for post-incident testing. There were no reported injuries or Near Miss events.

The probable cause for this Improper RWP event on January 29, 2023, was a human factor error to follow established work zone setup procedures. Poor communication between the RWIC and Crew and a time pressure to begin work led to employees entering the roadway without permission from ROCC.

---

<sup>1</sup> There were recent changes to SOP 2, and the procedure was written for the PDC to authorize RWICs to hotstick.

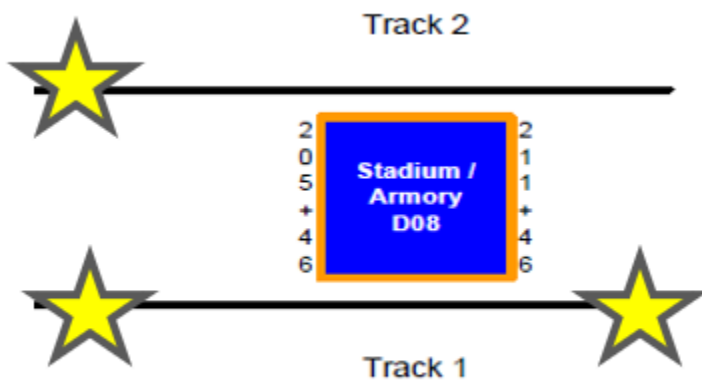
## Incident Site

Stadium-Armory Station, Track 1 & 2

Protected Work Area – D1 and D2 216+46 to 200+46

Actual Work Area – D1 and D2 211+46-205+46

## 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 three 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:
  - TRPM RWIC
  - TRPM (Crew)
  - TRPM (Crew)
- Documentation Review – Collection of relevant work history information and process documentation contained in WMATA systems of record. These records include:

- Metrorail Safety Rules and Procedures Handbook (MSRPH)
  - National Oceanic and Atmospheric Administration (NOAA)
- 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]
    - Closed-Circuit Television (CCTV)

## **Investigation**

On January 29, 2023, at 02:20 hours, the TRPM RWIC and their work crew entered the roadway at Stadium-Armory Station without permission from the Radio RTC.

At 00:05 hours, the RWIC contacted the PDC to request for supervisory tag D1/D2 216+46 to 200+46. At 01:42 hours, the RWIC contacted the Button RTC to request an extension on the approved Chain Markers so they would be able to complete additional work. The extension request was to CM 218+46 and 199+46, and the RWIC was informed that the RTC could not extend the work area. At 01:58 hours, the RWIC advised the PDC of the CM work location shortage. The PDC informed the RWIC that they would have to cancel the work location and return the next day with the correct CMs entered into GOTRS. The RWIC requested the PDC stand by before canceling the tag so they could contact their supervisor.

At 02:11 hours, the RWIC received Supervisory Tag 2023029712S from the PDC and was instructed to contact ROCC for permission to Hot-Stick. The RWIC confirmed the tag number and instruction using 100% repeat back.

At 02:24 hours, the Radio RTC contacted the RWIC to verify if they were issued ETO and from whom it was issued. The RWIC reported that ETO was issued from the PDC. The Radio RTC requested a landline from RWIC for clarification on issuing ETO protection. At 02:26 hours, the RWIC reported to the Buttons RTC that they were issued a supervisory tag from the PDC. While speaking with the Buttons RTC, the RWIC was asked if they were placing shunts and responded that they made a mistake by going to the roadway and placing shunts without ETO protection.

At 02:37 hours, the RWIC reported to the Assistant Operations Manager (AOM) that before they were able to notify the RTC that they were in possession of the Supervisory Tag, the RTC was calling the RWIC. While the RTC was radioing for the RWIC, the RWIC was instructing the crew to “get in place.” The crew interpreted this instruction to mean to go to the roadway to place shunts. The RWIC clarified that they did not instruct the crew to go to the roadway to place shunts but to get ready to place the shunts. The RWIC was advised to stand by and stand clear of the roadway.

At 03:12 hours, the RWIC turned the Supervisory Tag in to the PDC and confirmed that all personnel and equipment were clear from the roadway.

The RWIC and two crew members were removed from service for post-incident testing. There were no reported injuries or Near Miss events.

## Chronological ARS Timeline

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

Time	Description
00:04:06 hours	<u>RWIC</u> : Contacted the ROCC to request GOTRS Rights. RTC advised RWIC to stand by and clear and contact the Power Desk. [Radio Ops 2]
00:05:29 hours	<u>RWIC</u> : Contacted Power Desk for a supervisory tag and provided a contact phone number. [Phone]
01:42:16 hours	<u>RWIC</u> : Contacted ROCC to request to extend their work location. [Phone]
01:48:48 hours	<u>Button RTC</u> : Contacted the Power Desk for the supervisory tag authorization 2023029712S. [Phone]
01:49:25 hours	<u>Power Desk Assistant Superintendent</u> : contacted the Power Desk Controller for the supervisory tag authorization 2023029712S. [Phone]
01:50:49 hours	<u>Power Desk</u> : Tried to contact RWIC, but they were unable to reach them. RWIC was talking to ROCC at the time. [Phone]
01:58:53 hours	<u>RWIC</u> : Contacted Power Desk and advised that their work area was too short. ROCC advised that the work location could not be widened. Power Controller advised the RWIC to cancel the work. Power RWIC advised they would contact their Supervision. [Phone]
02:11:46 hours	<u>RWIC</u> : Contacted Power Desk received tag number 202302971S. The Power Controller instructed Power RWIC to contact ROCC for hot sticking. [Phone]
02:24:29 hours	<u>Radio RTC</u> : Contacted RWIC and asked who granted them ETO. RWIC advised that MOC granted ETO Protection, then advised they would give a landline. [Radio-Ops 2]
02:26:32 hours	<u>RWIC</u> : Contacted ROCC and reported receiving the supervisory tag and they placed shunts. RWIC admitted to making a mistake. RTC instructed RWIC to standby. [Phone]
02:27:34 hours	<u>Button RTC</u> : Contacted AOM to report the Improper RWP Event. [Phone]
02:28:11 hours	<u>AOM</u> : Contacted OM (Operations Manager) to report the Improper RWP Event. [Phone]
02:53:00 hours	<u>RWIC</u> : Granted foul time to remove shunts and clear equipment [ROCC Report]
03:27:00 hours	Supervisory tag 2023029712S was turned into the Power Desk [ROCC Report]
03:30:00 hours	Two TRPM crew members and one RWIC were removed from service for Post Incident Testing. [ROCC Report]

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



# Advanced Information Management System (AIMS)

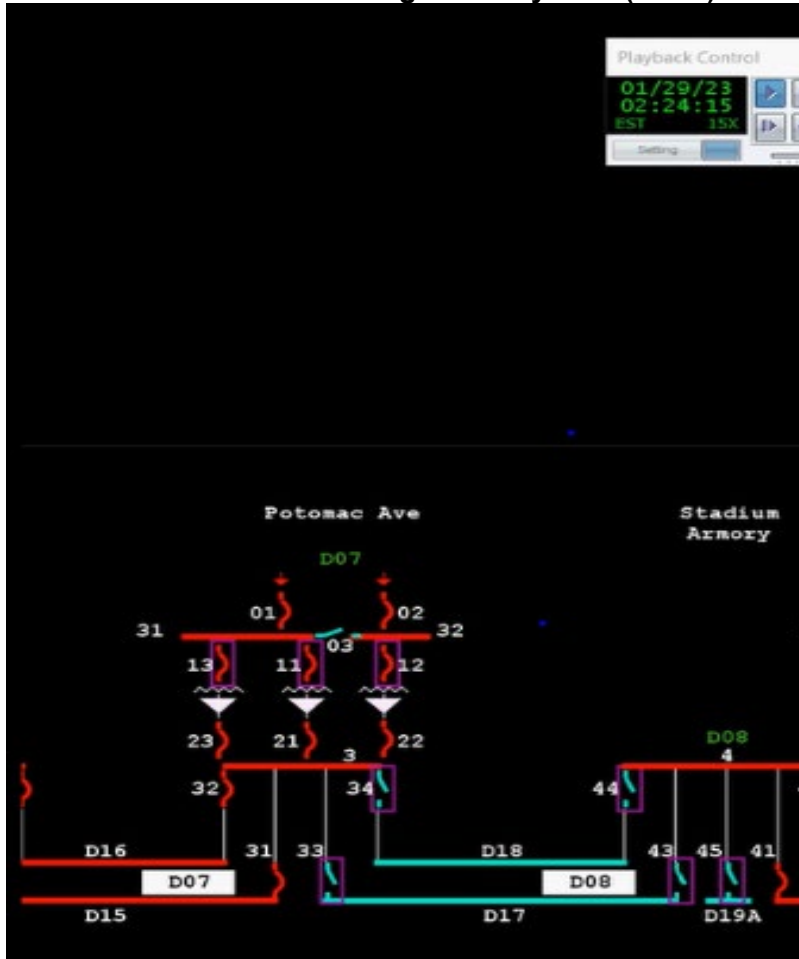


Figure 1 – AIMS Power breakers open 33,34,43 &44.



Figure 2 – AIMS one shunt Track 1, two shunts Track 2

## Interview Findings

As part of the investigation launched into the event, SAFE interviewed three people. The interview 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.

### TRPM (RWIC)

- The RWIC stated they were rushing to set up work area.
- The RWIC stated they mistakenly walked onto the roadway to place a mat.
- The RWIC stated the crew was working under a Supervisory Red Tag.
- The RWIC advised they needed an additional 200 feet of work area due to the work area being close to the buffer (Protected Limits).
- The RWIC stated they instructed the crew to get in place after receiving the Supervisory Tag from the PDC but did not make it clear as to what was meant by get in place.

- The RWIC stated a safety briefing was conducted on the mezzanine level and the work that was planned was discussed.
- The RWIC stated that after receiving the Supervisory Tag from the PDC, they instructed them to contact the RTC for permission to enter the roadway.

#### *TRPM (Crew Member #1)*

- Crew Member #1 stated they informed the RWIC that they had to go to the roadway together after the RWIC informed them that they were clear to go to roadway.
- Crew Member #1 stated they saw that TRPM Crew Member #2 had already set up shunts and lights on both tracks opposite their location.
- Crew Member #1 indicated that a safety briefing was conducted in the maintenance room on the mezzanine and “be vigilant” was the safety topic discussed.

#### *TRPM (Crew Member #2)*

- Crew Member #2 stated they checked their CMs with the RWIC to be sure where to place the shunts and lights before going to the roadway.
- Crew Member #2 stated they placed shunts on track 1 & 2 alone opposite of the platform end of TRPM Crew #1.

### **Weather**

At the time of the incident, NOAA recorded the temperature at 43° F, with partly cloudy skies, winds 13 mph and 60% humidity. Weather was not a contributing factor in this incident (Weather source: NOAA – Location: Washington, D.C.).

### **Related Rules and Procedures**

- MSRPH 5.10.2 – Rule (RWIC duties and oversight of the working limits)  
10. Must receive permission from ROCC before entering the Roadway and will not enter the Roadway until permission is granted by ROCC.
- MSRPH SOP 2 – Operating  
6.11-15 After verifying the correct breakers are showing an open indication via the Advanced Information Management System (AIM), the PDC shall issue the switch order to the RWIC and then complete GOTRS Supervisory Tag Execution step “Issue Supervisory Tag”. The PDC shall advise the RWIC to separately contact the RTC to arrange hot sticking activities. The PDC shall confirm with the RTC that the requested Supervisory outage is now active. The RTC shall confirm via AIM that the Supervisory Third Rail Power Outage for the GOTRS RID defined work area has been activated. The RWIC shall contact the RTC to ensure RWP protections are in place (i.e., ETO) to enter the Roadway to Hot-Stick all gaps and confirm the Third Rail is de-energized.

### **Human Factors**

#### *Fatigue*

#### RWIC

Conditions at the time of the incident were evaluated to distinguish whether evidence of fatigue was present. No video of the person involved was available to ascertain whether evidence of fatigue was present. Employee reported feeling fully alert at the time of the incident and reported experiencing no symptoms of fatigue in the time leading up to the incident.

### *Fatigue Risk*

### RWIC

Incident data was evaluated for fatigue risk factors. Risk factors for fatigue were present. The incident (02:20 hours) occurred at a time of low circadian alertness. The employee reported keeping a regular sleep schedule in the days leading up to the incident. The employee worked evening shifts in the days leading up to the incident. The employee was awake for 5.3 hours at the time of the incident. The employee reported 12 hours of sleep in the 24 hours preceding the incident. The off-duty period was one day 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 RWIC was in compliance with the Drug and Alcohol Policy and Testing Program 7.7.3/6.

### Work History

The RWIC is a WMATA employee with 17 years of service as a Power Technician.

### Certifications

The RWIC holds a Roadway Worker Protection (RWP) Level 4 certification that expires on October 1, 2023.

### Findings

- After issuing the Supervisory Tag, the PDC instructed the RWIC to contact the RTC for permission to enter the roadway. The RWIC repeated the instructions.
- The RWIC instructed their work crew to “get in place,” which the crew interpreted to mean to set up the work zone.
- The violation was noticed when the work crew attached shunts to the running rails, which are indicated on the AIMS screen.
- The RWIC stated they were rushing to set up the work zone and made a mistake by not calling for permission to Hot Stick and set up their work zone.
- The RWIC holds an RWP Level 4 certification that expires on October 1, 2023.
- The RWIC stated that they noticed the work area setup was short and tried to extend it before making the supervisory request through the PDC.
- The RWIC stated previous extension requests were executed by the PDC. However, the MOC reported that no changes could be made and GOTRS rights would have to be canceled.

- The Crew Member #2 stated they placed shunts on track 1 & 2 alone opposite of the platform end of TRPM Crew #1.
- Crew Member #1 stated they informed the RWIC that they had to go to the roadway together after the RWIC informed them that they were clear to go to roadway.
- The Crew Members indicated that a safety briefing was conducted in the maintenance room on the mezzanine and “be vigilant” was the safety topic discussed.
- Poor communication between the RWIC and Crew led to employees entering the roadway without permission from ROCC.

### **Immediate Mitigation to Prevent Recurrence**

- TRPM removed the RWIC from service.
- Safety Bulletin SB 23-02-B “Power Disconnected: Differences Between RTC and PDC Roadway Authorizations was disseminated authority wide through email notification. This Safety Bulletin highlighted PDC Authorizations and Interim Mitigation that states in part; When a PDC verbally notifies the RWIC to perform hot sticking activities, they shall emphasize that the notification to hot stick does not authorize roadway entry until the RWIC ensures that the RTC has established their working limits.

### **Probable Cause Statement**

The probable cause for this Improper RWP event on January 29, 2023, was a human factor error to follow established work zone setup procedures. Poor communication between the RWIC and Crew and a time pressure to begin work led to employees entering the roadway without permission from ROCC.

### **Recommended Corrective Actions**

<b>Corrective Action Code</b>	<b>Description</b>	<b>Responsible Party</b>	<b>Estimated Completion Date</b>
105853_SAFE CAPS_TRPM_ 001	Retraining on RWP Level 4	TRPM	Completed
105853_SAFE CAPS_SAFE_ 001	Safety Bulletin SB 23-02-B “Power Disconnected: Differences Between RTC and PDC Roadway Authorizations was disseminated authority wide through email notification.	SAFE	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.*

#### TRPM RWIC

The RWIC is a WMATA employee with 17 years of service. The RWIC holds a Roadway Worker Protection (RWP) Level 4 certification that expires October 1, 2023.

During the interview, the RWIC provided details about the Improper RWP event on January 29, 2023, at 02:20 hours at Stadium-Armory Station.

The RWIC indicated they were working under a supervisory outage. They stated that prior to making the supervisory request, they noticed the work zone setup was short and contacted ROCC to request a 200 ft. extension of the work area. They stated making an extension request was normal past practice. At 24:00 hours, a supervisory outage request was made to Maintenance Operations Control (MOC)\* and ROCC.

Following the supervisory request, the RWIC stated that at 02:10 hours, they were contacted by MOC to receive their supervisory tag. The RWIC said they were flustered and could not cancel GOTRS rights without any repercussions. They were informed that ROCC no longer handles CM issues and was referred to MOC. MOC reported that no changes could be made and GOTRS rights would have to be canceled. The RWIC requested to contact their supervisor before taking the area. The supervisor advised the RWIC to take the area. The RWIC took possession of the supervisory tag.

They said they would normally notify ROCC that they have the supervisory tag over the radio. However, ROCC contacted them first verifying if they were placing shunts down. The RWIC was confused as to why ROCC was asking about shunts when the supervisory tag was not called into ROCC yet. The RWIC stated they did instruct the crew to “get in place,” so once ROCC gives them permission, they would be in place to set the shunts.

The RWIC stated the crew misunderstood the instruction of the RWIC and placed the shunts down. The RWIC stated they were moving fast because of the delay while attempting to adjust their work zone limits. The RWIC stated they got ahead of themselves and stepped into the roadway. The RWIC stated no permission was given to the crew to place shunts down and did see them go to the roadway.

*\*Note: The RWIC properly notified the Power Operations Center to begin their Supervisory Outage request.*

#### TRPM Crew #1

The TRPM Crew #1 is a WMATA employee with 15 years of service. The Crew members hold a Roadway Worker Protection (RWP) Level 4 certification that expires September 1, 2023.

During the interview, the Crew members provided details about the Improper RWP event on January 29, 2023, at 02:20 hours at Stadium Armory Station.



The TRPM Crew #1 stated the RWIC informed them they were clear to go to the roadway to set up the work zone. TRPM Crew #1 informed the RWIC that they had to go to the roadway together and while headed to the roadway, the RWIC grabbed the mats. After setting up the first track together and retreating to the A/C room, the RWIC stated they cannot set up the second track because ROCC did not give them rights to the roadway. TRPM Crew #1 stated when they returned to the platform, they saw that TRPM Crew #2 had already set up shunts and lights on both tracks opposite their location.

The Crew member indicated that a safety briefing was conducted in the maintenance room on the mezzanine and “be vigilant” was the safety topic discussed.

### TRPM Crew #2

TRPM Crew #2 is a WMATA employee with 11 years of service. The Crew members hold a Roadway Worker Protection (RWP) Level 4 certification that expires May 1, 2023.

During the interview, TRPM Crew #2 provided details about the Improper RWP event on January 29, 2023, at 02:20 hours at Stadium-Armory Station.

TRPM Crew #2 stated they were on the platform waiting to go to work. They were waiting for the RWIC to get off the phone to ask if they were good to go [to the roadway] and were told yes. They grabbed their equipment and checked their CMs with the RWIC to be sure where to place the shunts and lights. The TRPM stated they placed shunts on track 1 & 2 alone opposite of the platform end of TRPM Crew #1.

The Crew Member indicated a safety briefing was conducted in the mezzanine maintenance room, and the planned work was discussed.

Appendix B – Work Crew Incident Statements

M Initial Incident Form		TO BE COMPLETED AND		Page 1 of	
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY		DISTRIBUTED WITHIN 24 HOURS			
INCIDENT		Date	Incident Time	Date/Time Reported	Worksafe Incident ID#
1-29-23		02:15	<input checked="" type="checkbox"/> AM <input type="checkbox"/> PM		
Location		000 Passenger Station			Incident ID# (From ROCC, BOCC, etc.)
Type of Incident:	<input type="checkbox"/> Flood	<input type="checkbox"/> Request for Medical Assistance	Incident Class	Injury Class	
<input type="checkbox"/> Damage to Property	<input type="checkbox"/> Hazardous Material Incident	<input type="checkbox"/> Detector <input type="checkbox"/> Leak <input type="checkbox"/> Spill	<input type="checkbox"/> Injury	<input type="checkbox"/> Fatality <input type="checkbox"/> Medical Treatment	
Entrapment:	<input type="checkbox"/> Elevator <input type="checkbox"/> Disabled Train	<input type="checkbox"/> Near Miss	<input type="checkbox"/> No Loss	<input type="checkbox"/> First Aid Only <input type="checkbox"/> Restricted Work	
<input type="checkbox"/> Evacuation	Rail Vehicle Collision:	<input type="checkbox"/> Trespassing	<input type="checkbox"/> Property Damage	<input type="checkbox"/> Loss of Consciousness	
<input type="checkbox"/> Fire	<input type="checkbox"/> Collision <input type="checkbox"/> Derailment		<input checked="" type="checkbox"/> Other	<input type="checkbox"/> Lost Time	
MATA PERSONNEL INVOLVED					
Name		Age	Badge #		
[Redacted]		58	[Redacted]		
Job Title		Department			
HWT		Power			
Last Day Worked (Prior to)	Hours Worked (within last 24 hrs)	Overtime?			
1-27-23	0	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
COMPLETE FOR INCIDENTS WITHIN THE RAIL SYSTEM:					
Train/Vehicle ID	Direction	Track #	Car/Vehicle Numbers	Trouble Code	Resp Code
Mezzanine #	AFC Equipment #	Escalator/Elevator #	Entrance	Platform	Track
COMPLETE FOR INCIDENTS WITHIN THE BUS SYSTEM					
Bus or Tag Number	Vehicle or Tag Number	Block Number	Run Number		
DESCRIBE THE INCIDENT AND PROPERTY/EQUIPMENT DAMAGE					
Provide factual information about the task, actions before and after the incident, the injury causing agent and any damage caused to property or equipment. Provide a diagram(s) and/or photos as attachments. If necessary, provide diagram in this space or on a separate page.					
<p>Misdirection of roadway policy without permission from ROCC or RW. 1040 &amp; 1030 entered the roadway without consent from the (L&amp;C) or (ROCC). I hadn't received permission from central I was only in possession of Super visionary TAG from one. I hadn't informed central that I was in possession. Before I could get advice to do that, central informed me.</p>					
EXTERNAL AGENCIES INVOLVED					
<input type="checkbox"/> Fire Dept. - Arrival Time: _____		<input type="checkbox"/> EMS - Arrival Time: _____			
<input type="checkbox"/> Police - Arrival Time: _____		<input type="checkbox"/> Other - Arrival Time: _____			
Name	Badge Number	Complaint Number	Jurisdiction		
Engine Number	Ambulance Number	Hospital			
ACTIONS TAKEN BY SUPERVISOR.					
Describe immediate changes made to address the incident.					
Investigation # 1075 Employee was instructed to stop work and taken for a 1075					
Form completed by (Signature)				Date	
[Redacted]				01/29/23	
Print name	Employee Number	Phone Number			
Supervisor	Date				
[Redacted]	01/29/23				
Print name	[Redacted]				

50.685 02/10 Original: RISK Copy 1: Kiosk Copy 2: Department Photocopy to SAFE, Employee and other per Department requirements

Document 1 – TRPM Written Statements, Page 1 of 5

Incident Date: 01/29/2023 Time: 02:20 hours  
 Final Report – Improper Roadway Worker Protection  
 E23067

Drafted By: SAFE 710 – 03/29/2023  
 Reviewed By: SAFE 71 – 03/30/2023  
 Approved By: SAFE 71 – 03/30/2023

PAGE 2 |

That shunts were down. I did not give any consent to either [REDACTED] to push shunts. Because I had not received permission from RADC, [REDACTED] must be misunderstood me when I gave them the chain markers. I never told anyone to go on track! ~~that~~ when alerted by central I was confused as to what happened. This a task that I do on every regular basis and I know what the steps are. I would not tell anyone to go on track without it if I did not have central permission. I believe there was bad communication between my crew and I, but at no time did I ever give permission to go track side. I had not even ~~been~~ told central that I was supervisor of my supervisory, I had not called it in yet. [REDACTED] informed me that he had shunts down. I told him that I was looking for [REDACTED] ~~we were~~ ~~needed~~ if we were good to go, I was on the phone with MOC and put my finger up saying hold on. I did not verbally tell them to even proceed. I simply gave them chain markers and said 'get in place'. I do that all the time, so we can be ready when central calls over radio. MOC works with me enough to know that. I usually call to them and tell them what to push shunts. I did not call them. ~~anybody~~ anybody that ever works with me can vouch for that. I've never had this problem ~~ever~~!

M Initial Incident Form		TO BE COMPLETED AND		Page 1 of	
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY		DISTRIBUTED WITHIN 24 HOURS			
<b>INCIDENT</b>					
Date	Incident Time	<input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	Date/Time Reported	<input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	Worksafe Incident ID#
01/29/23	02:15		01/29/23 @ 02:15		
Location				Incident ID# (From ROCC, BOCC, etc.)	
Type of Incident:	<input type="checkbox"/> Flood	<input type="checkbox"/> Request for Medical Assistance	Incident Class	Injury Class	
<input type="checkbox"/> Damage to Property	<input type="checkbox"/> Hazardous Material Incident:	<input type="checkbox"/> Smoke	<input type="checkbox"/> Injury	<input type="checkbox"/> Fatality	<input type="checkbox"/> Medical Treatment
<input type="checkbox"/> Entrapment:	<input type="checkbox"/> Detector <input type="checkbox"/> Leak <input type="checkbox"/> Spill	<input type="checkbox"/> Trespassing	<input type="checkbox"/> No Loss	<input type="checkbox"/> First Aid Only	<input type="checkbox"/> Restricted Work
<input type="checkbox"/> Elevator <input type="checkbox"/> Disabled Train	<input type="checkbox"/> Near Miss		<input type="checkbox"/> Property Damage	<input type="checkbox"/> Loss of Consciousness	
<input type="checkbox"/> Evacuation	Rail Vehicle Collision:		<input checked="" type="checkbox"/> Other	<input type="checkbox"/> Lost Time	
<input type="checkbox"/> Fire	<input type="checkbox"/> Collision <input type="checkbox"/> Derailment			<input type="checkbox"/> No Treatment	
<b>WMATA PERSONNEL INVOLVED</b>					
[Redacted]				Age	51
[Redacted]				Department	TRPM
[Redacted]				Division/Section	PMI
Last Day Worked (prior to)		Hours Worked (within last 24 hrs)		Overtime? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
01/26/23		22:00 PM			
<b>COMPLETE FOR INCIDENTS WITHIN THE RAIL SYSTEM:</b>					
Train/Vehicle ID	Direction	Track #	Car/Vehicle Numbers	Trouble Code	Resp Code
Mezzanine #	AFC Equipment #	Escalator/Elevator #	Entrance	Platform	Track
<b>COMPLETE FOR INCIDENTS WITHIN THE BUS SYSTEM</b>					
Bus or Tag Number	Vehicle or Tag Number	Block Number	Run Number		
<b>DESCRIBE THE INCIDENT AND PROPERTY/EQUIPMENT DAMAGE</b>					
Provide factual information about the task, actions before and after the incident, the injury causing agent and any damage caused to property or equipment. Provide a diagram(s) and/or photos as attachments. If necessary, provide diagram in this space or on a separate page.					
<p>Under RWIC instructions, I was told to set up the shunt on both track I &amp; II at a chain marker 216+00. On my way back after I set up on the first track a shunt the RWIC who have priority set up the work zone mats on both tracks; stopped me not to set up a second shunt on a second track. He said the reason for the instruction was because the team wasn't granted the track access by Control, which was contrary to his previous recommendation Request and instructions.</p>					
<b>EXTERNAL AGENCIES INVOLVED</b>					
<input type="checkbox"/> Fire Dept. - Arrival Time: _____		<input type="checkbox"/> EMS. - Arrival Time: _____			
<input type="checkbox"/> Police - Arrival Time: _____		<input type="checkbox"/> Other _____ - Arrival Time: _____			
Name	Badge Number	Complaint Number	Jurisdiction		
Engine Number	Ambulance Number	Hospital			
<b>ACTIONS TAKEN BY SUPERVISOR.</b>					
Describe immediate changes made to address the incident.					
Employee were instructed to stop work and call 911 1075.					
Form #	[Redacted]				Date
					01/29/23
P#	[Redacted]				Date
					01/29/23

50.688 02/10 Original: RISK Copy 1: Kiosk Copy 2: Department Photocopy to SAFE, Employee and other per Department requirements

Document 1 – TRPM Written Statements, Page 3 of 5

**M Initial Incident Form** TO BE COMPLETED AND DISTRIBUTED WITHIN 24 HOURS Page 1 of 1  
Metrolink WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

INCIDENT		Date	Incident Time	<input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	Date/Time Reported	<input type="checkbox"/> AM <input type="checkbox"/> PM	Worksafe Incident ID#
		1-29-23	02:15				
Location						Incident ID# (From ROCC, BOCC, etc.)	
D08 - Stadium Armory Station							
Type of Incident:	<input type="checkbox"/> Flood	<input type="checkbox"/> Request for Medical Assistance	Incident Class		Injury Class		
<input type="checkbox"/> Damage to Property	<input type="checkbox"/> Hazardous Material Incident:	<input type="checkbox"/> Smoke	<input type="checkbox"/> Injury	<input type="checkbox"/> Fatality	<input type="checkbox"/> Medical Treatment		
<input type="checkbox"/> Entrapment:	<input type="checkbox"/> Detector <input type="checkbox"/> Leak <input type="checkbox"/> Spill	<input type="checkbox"/> Trespassing	<input type="checkbox"/> No Loss	<input type="checkbox"/> First Aid Only	<input type="checkbox"/> Restricted Work		
<input type="checkbox"/> Elevator <input type="checkbox"/> Disabled Train	<input type="checkbox"/> Near Miss		<input type="checkbox"/> Property Damage	<input type="checkbox"/> Loss of Consciousness	<input type="checkbox"/> Lost Time		
<input type="checkbox"/> Evacuation	Rail Vehicle Collision:		<input checked="" type="checkbox"/> Other	<input type="checkbox"/> Lost Time	<input type="checkbox"/> No Treatment		
<input type="checkbox"/> Fire	<input type="checkbox"/> Collision <input type="checkbox"/> Derailment						

WMATA PERSONNEL INVOLVED			
[Redacted]		Age	Employee # / MTPD Badge #
[Redacted]		43	[Redacted]
Job Title	Department	Division/Section	
AA-IT	Power	PMU	
Last Day Worked (prior to)	Hours Worked (within last 24 hrs)	Overtime? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1-27-23	6 hours		

COMPLETE FOR INCIDENTS WITHIN THE RAIL SYSTEM:							
Train/Vehicle ID	Direction	Track #	Car/Vehicle Numbers		Trouble Code	Resp Code	
Mezzanine #	AFC Equipment #	Escalator/Elevator #	Entrance	Platform	Track	Room#	

COMPLETE FOR INCIDENTS WITHIN THE BUS SYSTEM			
Bus or Tag Number	Vehicle or Tag Number	Block Number	Run Number

**DESCRIBE THE INCIDENT AND PROPERTY/EQUIPMENT DAMAGE**  
 Provide factual information about the task, actions before and after the incident, the injury causing agent and any damage caused to property or equipment. Provide a diagram(s) and/or photos as attachments. If necessary, provide diagram in this space or on a separate page.

All power personnel was standing by at DE9 platform waiting for permission to set up track from the RWOC, Power Unit [Redacted] finished his conversation with either MOC or Central, I asked him if we was "good to go", He said, "yeah". I then asked him my chain markers again for verification. He gave me them and I grabbed my safety equipment and went to place my shunts and lights. [Redacted] placed the Mats before we placed our Shunts and lights. I called [Redacted] after I placed my shunts and lights from my cell phone from a utility room and told him that I placed my shunts and lights and he can call

EXTERNAL AGENCIES INVOLVED			
<input type="checkbox"/> Fire Dept. - Arrival Time: _____	<input type="checkbox"/> EMS - Arrival Time: _____		
<input type="checkbox"/> Police - Arrival Time: _____	<input type="checkbox"/> Other - Arrival Time: _____		
Name	Badge Number	Complaint Number	Jurisdiction
Engine Number	Ambulance Number	Hospital	

**ACTIONS TAKEN BY SUPERVISOR.**  
 Describe immediate changes made to address the incident.

Employee was instructed to stop work and was taken for a 1075

Form completed by (Signature)	Date
[Redacted]	1-29-23
[Redacted]	01/29/23



Central to verify. He told me that ~~he was~~ [redacted] only set up one track and he was waiting for him to set up the other track and he would call me back. He called me back about 5 minutes later and ~~said~~ asked me why did I put down my shunts? ~~that night~~ He said we didn't have permission to put down ~~on~~ the shunts, I questioned him about that, We had a few words back in forth with me explaining what happened and him explaining that we didn't have permission, He gave us permission. He told me to standby, I went back to the platform and waited, [redacted] picked up the track by himself. He said they told him to pick it up.

Note:

The cameras will show [redacted] placing the Mats on the Roadway before the ~~the~~ Shunts and lights was placed which validates the permission that he gave us to set up track.

## Appendix C – TRPM Incident Report (Redacted)



Washington Metropolitan Area Transit Authority

Incident Number  
[20230130#105853](#)

### OVERVIEW

---

Department	Traction Power Maintenance
Incident Date	01/29/2023 02:00 AM
Incident Report Date	01/30/2023 08:51 AM
Maximo #	8649340
Was anyone transported from the scene for medical attention?	No
Was the facility or vehicle evacuated as a result of the incident?	No
Incident Type	Near Miss
Incident Description	Employees entered the roadway to setup a work zone without permission from ROCC.
People Impact	None
Asset Impact	None
Preferred Phone	[REDACTED]
Response Level	Level 4
Recommended Response	Near Miss. Further investigation may be needed.

### DETAILS

#### Environmental Factors

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Immediate Mitigation Response	Employees were removed from service and taken for a 1075.
Lighting	Lights On
Light Conditions	Artificial Lighting
Weather	Clear

#### Location Information

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Rail Station/Yard	STADIUM-ARMORY STATION
Address/Nearby Address	102 19TH STREET SE
Region	WASHINGTON
State	DC
Latitude	38.88760047
Longitude	-76.97695926

### PEOPLE

WMATA Personnel - [REDACTED]

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Incident Date: 01/29/2023 Time: 02:20 hours  
Final Report – Improper Roadway Worker Protection  
E23067

Drafted By: SAFE 710 – 03/29/2023  
Reviewed By: SAFE 71 – 03/30/2023  
Approved By: SAFE 71 – 03/30/2023

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Name	██████████
Employee #	██████
Department Code	33570
Department Name	Power High Voltage
Email	██████████
Age Range	Adult (19 – 60)
Was this person injured?	No
Was a drug test required?	Yes
What was the Justification?	WMATA
Is this person a witness?	No
What happened before the incident?	
What happened after the incident?	Work stopped and employee was taken down for a 1075.
Was this person driving?	No
Occupant of Vehicle	None
Personal Protective Equipment (PPE) Usage	
OSHA Recordable	
OSHA Injury Code	
Job Title	
Where Event Occurred	
OSHA Location	
Days Away from Work	
Days Restricted	
Private	No

**FATIGUE INFORMATION**

---

What was the employee's bed time, for the sleep period preceding the incident? Not Available (Otherwise unavailable to question)

What time did the employee's wake up? Not Available (Otherwise unavailable to question)

Was this the employee's sleep schedule in the last seven days, including days off? Not Available (Otherwise unavailable to question)

How alert was the employee's immediately prior to the incident? Not Available (Otherwise unavailable to question)

Were there any behaviors

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suggestive of fatigue?

**SUMMARY OF FATIGUE FACTORS**

---

Length of employee's last sleep Not Available  
Short prior sleep Not Available  
Hours spent awake at time of incident Not Available  
Long wake period Not Available  
Circadian effects on alertness at time of incident (incident between 02:00 am and 05:00 am?) Yes  
Circadian effects on time of sleep in week before incident Not Available  
Employee alertness at incident Not Available

**WMATA Personnel - [REDACTED]**

---

Name [REDACTED]  
Employee # [REDACTED]  
Department Code 33570  
Department Name Power High Voltage  
Email [REDACTED]  
Age Range Adult (19 – 60)  
Was this person injured? No  
Was a drug test required? Yes  
What was the Justification? WMATA  
Is this person a witness? No  
What happened before the incident?  
What happened after the incident? Work stopped and employee was taken down for a 1075.  
Was this person driving? No  
Occupant of Vehicle None  
Personal Protective Equipment (PPE) Usage  
OSHA Recordable  
OSHA Injury Code  
Job Title  
Where Event Occurred

*Document 3 – TRPM Incident Report, Page 3 of 7*

OSHA Location

Days Away from Work

Days Restricted

Private No

**FATIGUE INFORMATION**

---

What was the employee's bed time, for the sleep period preceding the incident? Not Available (Otherwise unavailable to question)

What time did the employee's wake up? Not Available (Otherwise unavailable to question)

Was this the employee's sleep schedule in the last seven days, including days off? Not Available (Otherwise unavailable to question)

How alert was the employee's immediately prior to the incident? Not Available (Otherwise unavailable to question)

Were there any behaviors suggestive of fatigue?

**SUMMARY OF FATIGUE FACTORS**

---

Length of employee's last sleep Not Available

Short prior sleep Not Available

Hours spent awake at time of incident Not Available

Long wake period Not Available

Circadian effects on alertness at time of incident (incident between 02:00 am and 05:00 am?) Yes

Circadian effects on time of sleep in week before incident Not Available

Employee alertness at incident Not Available

**WMATA Personnel -** [REDACTED]

---

Name [REDACTED]  
Employee # [REDACTED]  
Department Code 33570  
Department Name Power High Voltage  
Email [REDACTED]  
Age Range Adult (19 – 60)

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Was this person injured?	No
Was a drug test required?	Yes
What was the Justification?	WMATA
Is this person a witness?	No
What happened before the incident?	
What happened after the incident?	Work stopped and employee was taken down for a 1075.
Was this person driving?	No
Occupant of Vehicle	None
Personal Protective Equipment (PPE) Usage	
OSHA Recordable	
OSHA Injury Code	
Job Title	
Where Event Occurred	
OSHA Location	
Days Away from Work	
Days Restricted	
Private	No

**FATIGUE INFORMATION**

---

What was the employee's bed time, for the sleep period preceding the incident?	Not Available (Otherwise unavailable to question)
What time did the employee's wake up?	Not Available (Otherwise unavailable to question)
Was this the employee's sleep schedule in the last seven days, including days off?	Not Available (Otherwise unavailable to question)
How alert was the employee's immediately prior to the incident?	Not Available (Otherwise unavailable to question)
Were there any behaviors suggestive of fatigue?	

**SUMMARY OF FATIGUE FACTORS**

---

Length of employee's last sleep	Not Available
Short prior sleep	Not Available
Hours spent awake at time of incident	Not Available

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Long wake period Not Available

Circadian effects on alertness at time of incident (incident between 02:00 am and 05:00 am?) Yes

Circadian effects on time of sleep in week before incident Not Available

Employee alertness at incident Not Available

## INVESTIGATION

### General

#### Equipment Involved

**Known Facts** Personnel were not given permission to enter the roadway to set up their workzone.

#### DriveCam Event #

**Key Factors** Employee Communications Needs Improvement  
Employee Feedback Needs Improvement

**Root Causes** Human Performance Difficulty/Individual Performance Complication/Was a mistake made while using a procedure?/Procedures/Not Used/ Not Followed  
Human Performance Difficulty/Individual Performance Complication/Was a mistake made while using a procedure?/Procedures/Wrong  
Human Performance Difficulty/Team Performance/Did verbal communications or shift change play a role in this problem?/Communications/No Communication or Not Timely  
Human Performance Difficulty/Team Performance/Did verbal communications or shift change play a role in this problem?/Communications/Misunderstood Verbal Communication

#### Investigation Comments

██████ (02/15/2023 09:54 AM) ████████ claimed he never gave ████████ or ████████ permission to enter the roadway to set up track. However, ████████ and ████████ said they received permission from ████████ (RWIC)

## CORRECTIVE ACTIONS

### RWP Level 4 Training

**Incident** 20230130#105853

**Priority** (2) Normal

**Status** In Progress

**% Complete** 0

**Start Date** 03/06/2023

**Management System** Training

**Corrective Action Title** RWP Level 4 Training

**Corrective Action(s)** ████████ has been enrolled in the RWP level 4, 5 day training.

**Target Date** 03/06/2023

**Actual Completion Date** 03/10/2023

## ATTACHMENTS

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Original Name	File Name
01292023_Statement_████.pdf	<a href="#">20230130_105853_3778.pdf</a>
01292023_Statement_████.pdf	<a href="#">20230130_105853_3779.pdf</a>
01292023_Statement_████.pdf	<a href="#">20230130_105853_3780.pdf</a>

*Document 7 – TRPM Incident Report, Page 7 of 7*



## Power Disconnected: Differences Between RTC and PDC Roadway Authorizations

### OVERVIEW

Roadway Worker Protection (RWP) is intended to provide personnel with a uniform method of establishing on-track protection while minimizing the dangers and hazards of working on the roadway. Third-rail power outages, in conjunction with establishing working limits, are frequently used to protect from the hazards associated with performing work where the third rail is present.



There have been two recent RWP violations involving roadway workers performing hot sticking activities prior to receiving proper roadway access authorization and protection.

- On January 16 & 29, 2023: Roadway workers entered the roadway prior to establishing working limits via Exclusive Track Occupancy/Inaccessible Track (ETO/IT). After receiving notification from the Power Desk Controller (PDC) to hot stick, the Roadway Worker in Charge (RWIC) failed to contact the Rail Traffic Controller (RTC) to ensure that working limits protection was established ([SOP 2, Section 6.8.12 – Third Rail Power Energization and De-energization Procedures](#)).

### DETAILS AND ACTIONS

In both January incidents, the RTC could not grant working limits (ETO/IT) to the RWIC at the initial request time due to rail vehicle movement within the area. One incident involved a Third Rail Red Tag Power Outage, and the other involved a Third Rail Supervisory Power Outage.

#### RTC Authorization

An RTC must verify that all Class 1 rail vehicles (electric vehicles) are clear of the affected area and protect the area affected by the third rail outage by displaying red signals and establishing prohibit exits before authorizing the removal of third rail power. These protections must be established anytime third rail power is removed to prevent routing of electric vehicles inadvertently into a de-energized track section.

Upon receiving authorization from the PDC to hot stick, the RWICs involved in these incidents did not verify with the RTC that working limits had been established before entering the roadway.

[Section 5.10.2 of the Metrorail Safety Rules and Procedures Handbook \(MSRPH\)](#) requires a RWIC to receive permission from the ROCC before entering the roadway. Authority to enter the roadway is not considered in effect until the RWIC requests authority and the RTC has established and confirmed such protections.

<< continues on next page >>

*For questions regarding this Safety Bulletin or other safety-related issues, contact the Safety Hotline at 202-249-SAFE (7233).*



### PDC Authorizations

While utilizing a third rail power outage in conjunction with ETO or IT, notification from the PDC to hot stick **does not** mean the roadway worker has permission to access the roadway. While RWP and third rail power outages are closely related and are often used together, authorization to enter the roadway may only come from the RTC.

### Interim Mitigation

When a PDC verbally notifies the RWIC to perform hot sticking activities, they shall emphasize that the notification to hot stick **does not authorize roadway entry** until the RWIC ensures that the RTC has established their working limits.

### Resources

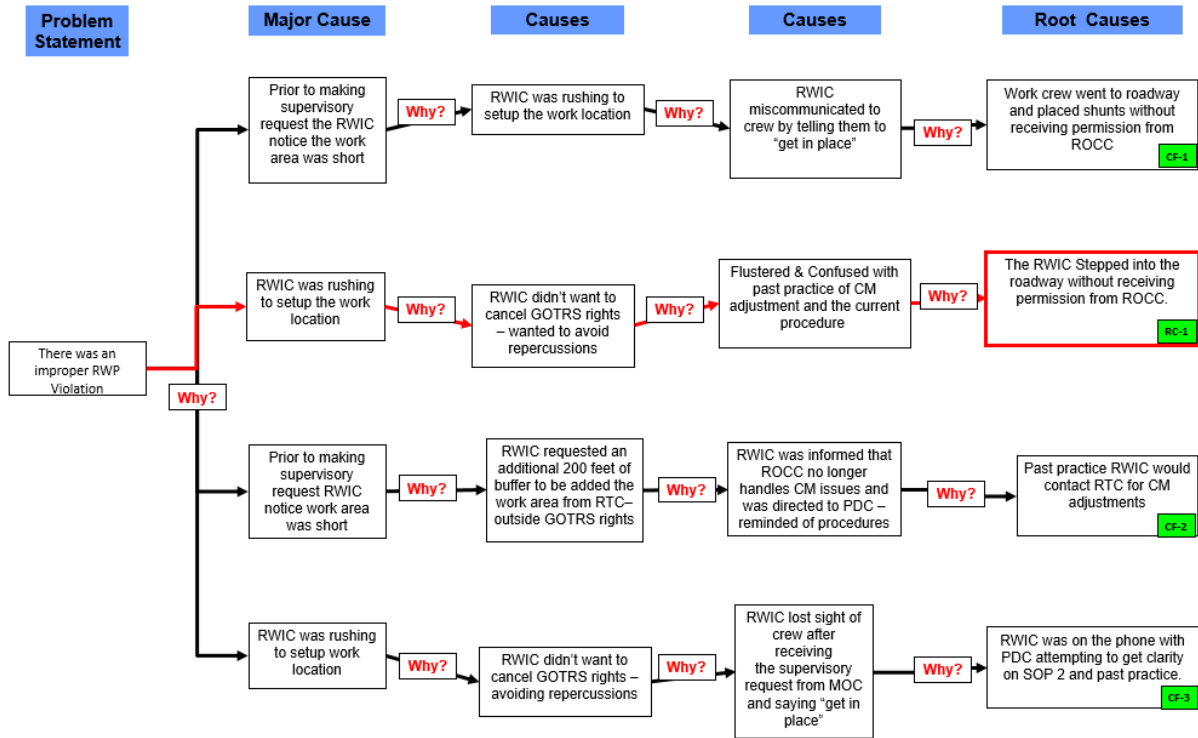
All RWP rules and procedures can be found in [Section 5 of the MSRPH](#). Additionally, detailed procedures related to ETO and Third Rail Power and De-energization can be found in the following SOPs, which can also be found on [MetroDocs](#):

- [SOP 410-ROCC-ROC-04-00: Roadway Worker Protection – Exclusive Track Occupancy](#)
- [SOP 2: Third Rail Power Energization and De-energization Procedures](#)

*For questions regarding this Safety Bulletin or other safety-related issues, contact the Safety Hotline at 202-249-SAFE (7233).*



# Appendix E – Why-Tree Analysis



## Root Cause Analysis

