

#### WMSC Commissioner Brief: W-0119 – Improper Door Operation – Rhode Island Ave Station – June 11, 2021

Prepared for Washington Metrorail Safety Commission meeting on October 26, 2021

#### Safety event summary:

As part of the WMSC's regular monitoring efforts, the WMSC identified that a Metrorail train's doors opened on the non-platform side at Rhode Island Ave Station on Friday, June 11, 2021. This event was not identified or reported by Metrorail. After the WMSC informed Metrorail of this event, Metrorail conducted the required investigation and provided a formal notification of the event (outside of the required two-hour window). Initial information provided during the very early stages of the investigation was insufficient due in part to the unusual way this event occurred and in part due to limited examination of the available data, but the WMSC worked with Metrorail's Safety Department to ensure that this event was fully investigated and documented.

The investigation determined that the Train Operator had attempted to troubleshoot a door problem caused by a passenger partially activating an exterior door emergency handle. The customer took this action despite there being no emergency. When the handle was partially activated at Fort Totten Station, it prevented the middle doors (doors 3 and 4) on the sixth car of the train (Car 7375) from opening at Brookland-CUA Station. The Train Operator did not report this issue at Brookland-CUA Station, and continued to Rhode Island Ave Station, where the Train Operator then reported the fault that had been displayed on the train control display (TCD). Faults displayed in red are supposed to be reported to the ROCC immediately.

The Rail Operations Control Center (ROCC) instructed the Train Operator to investigate the issue once it was reported. The Train Operator identified that the exterior emergency door handle was not properly aligned, and corrected the issue, however the doors still did not open. The Train Operator then keyed up the train from car 7375's "Hostler panel." The panel is only located in "B" cars, which face the opposite direction from the "A" cars that are used as front or rear cars in revenue operations. Because this panel was facing the opposite direction from the direction of the train's travel, when the Train Operator pushed a button to open the doors on the left side of the train, the doors actually opened on the right side, which was the side opposite of the station platform. At Rhode Island Ave Station, this means the doors opened on an elevated structure with minimal secondary protections.

The doors remained open on the wrong side for approximately eight seconds. The Train Operator then closed the doors on the incorrect side, and opened the doors on the correct side of the train. No ground walk around was performed as required by Metrorail rules and procedures to verify that no one had been injured or departed the train onto the roadway.

The Train Operator reported to the ROCC that the doors had been reset but did not report the wrong-side door opening. The Train Operator acknowledged this improper door operation when asked by management upon reporting for duty the following day. The Train Operator was then taken for post-event testing. The Train Operator stated that this was their first time troubleshooting a door issue outside of training or certification. Train Operators are not trained on the use of the Hostler panel to troubleshoot door issues. Training focuses on using an "A" car's operating cab panel.

Metrorail's automated railcar monitoring systems that track railcar operations in real time did not communicate that the doors had opened on the wrong side because the doors were opened from the Hostler panel on a "B" car. The Advanced



Information Management (AIM) system only identifies train-to-wayside data on door functions from the front or rear cars of a train.

#### Probable Cause:

The probable cause of this event was Metrorail's inadequate training on and supervisory oversight of troubleshooting procedures. Contributing to this event was the orientation of and signage on Hostler panels.

#### **Corrective Actions:**

Metrorail will add information about fault color codes and required actions on 7000-Series trains in the next revision of the "Train Operations Guide & Procedural Checklists."

Metrorail is communicating requirements to report incidents and unusual occurrences in Rail Operations Personnel Notices.

#### WMSC staff observations:

Hostler panels are typically used for yard operation, coupling and uncoupling. The panels are not supposed to be used on the mainline, including for door troubleshooting.

This event highlights the importance of Metrorail developing, implementing and maintaining a comprehensive hazard identification program.

Staff recommendation: Adopt final report.



# Washington Metro Area Transit Authority Department of Safety and Environmental Management (SAFE) FINAL REPORT OF INVESTIGATION A&I E21241

Date of Event:	06/11/2021				
Type of Event:	Improper Door Operation				
Incident Time:	18:24 hours				
Location:	Rhode Island Avenue Station, Track				
	2				
Time and How received by SAFE:	19:27 hours. On-Call Phone				
WMSC Notification Time:	21:48 hours. Email				
Responding Safety Officers:	WMATA SAFE: No				
	WMSC: No				
	Other: N/A				
Rail Vehicle:	L7424-25x7389-88x7374- <b>75</b> x7287-				
	86T				
Injuries:	None				
Damage:	None				
Emergency Responders:	None				
SMS I/A Number	20210614#93879				

Rev1 Drafted By: SAFE 703 – 09/26/2021 Rev1 Reviewed By: SAFE 71 – 10/18/2021 Rev1 Approved By: SAFE 71 – 10/18/2021 Page 1

# **Rhode Island Station – Improper Door Operation**

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# **Abbreviations and Acronyms**

САР	Corrective Action Plan
ссти	Closed-Circuit Television
ER	Event Recorder
MSRPH	Metrorail Safety Rules and Procedures Handbook
NOAA	National Oceanic and Atmospheric Administration
RTRA	Office of Rail Transportation
ROCC	Rail Operations Control Center
SAFE	Department of Safety and Environmental Management
SMS	Safety Measurement System
TCD	Train Control Display
тwс	Train to Wayside Communication
VMDS	Vehicle Monitoring Diagnostic System
WMATA	Washington Metropolitan Area Transit Authority
WMSC	Washington Metrorail Safety Commission

## **Executive Summary**

On Friday, June 11, 2021, at approximately 18:19 hours, the Train Operator of Train ID 115 reported to the ROCC that the Train Control Display (TCD) indicated that car 7375's exterior door emergency handle was activated. The Train Operator informed the ROCC that the displayed fault meant the handle was not properly positioned, resulting in the doors not opening. The Train Operator stated they initially saw the door exterior emergency handle fault displayed at the previous station, Brookland-CUA, but did not report it because they believed the fault would clear by the next station. At approximately 18:23 hours, the ROCC asked the Train Operator if they were able to reset the doors. Approximately two minutes later, the Train Operator responded the doors were reset, returned to the lead car and continued in service.

At approximately 19:27 hours, the Department of Safety and Environmental Management (SAFE) was alerted to a possible unreported event involving doors opening on the opposite side of the platform at Rhode Island Avenue Station, Track 2. The source of the report was a photograph circulating on social media platforms showing the doors opened on the opposite side. SAFE Management immediately started an investigation as the incident was not reported to the Rail Operation Control Center (ROCC). There was a delay and initial misclassification of this event because the Train to Wayside Communication (TWC) did not immediately identify the doors opening on the opposite side of the platform. This was due to the Train Operator of Train ID #115 keying up on the B-car via the Hostler panel.

The Closed-Circuit Television (CCTV) and the Vehicle Monitoring and Diagnostic System (VMDS) revealed that this event started at Fort Totten Station at approximately 18:14 hours when a passenger partially activated the exterior emergency door handle on Door 3/4 of car 7375. This caused a "DOOR EXTERIOR EM HANDLE" fault to display on the TCD. Once at Rhode Island Avenue Station, the Train Operator observed the fault was still displayed, and the middle door of car 7375 did not open, prompting them to report it to the ROCC. The ROCC instructed the Train Operator to make announcements to the customers, key down, and investigate the issue. When the Train Operator arrived at car 7375, they noticed the exterior emergency door handle cover panel was ajar, and the handle was positioned improperly. The Train Operator adjusted the handle to its proper position; however, the doors did not respond by opening. The Train Operator then boarded car 7375 and keyed up using the Hostler panel. The Hostler panels are only located on the "B" cars and are oriented in the opposite direction of the "A" car. As a result, the Train Operator became disoriented and engaged the Door Open left push button, which opened the doors on the off-side of the platform. The doors remained open on the off-side of the platform of car 7375 for approximately eight seconds. At approximately 18:23 hours, the ROCC asked the Train Operator if they were able to reset the doors. Approximately two minutes later, the Train Operator responded the doors were reset but did not report the off-side door opening. A review of the Event Recorder (ER) of Train ID #115 confirmed that an improper door operation occurred.

Upon RTRA Management inquiry, the Train Operator reported the improper door operation at the start of their shift the following day and was immediately transported for post-incident toxicology testing. The Train Operator stated their failure to report the improper door operation was due to being nervous because they had never experienced doors opening on the opposite side of the platform.

The probable cause of this incident was a decision-making error by attempting to reset doors #3 & #4 on car 7375 using the Hostler panel. This action is not in accordance with established training

and instruction for door troubleshooting. A causal factor to the incident is that the Hostler panel is oriented to the rear of the car, which meant that the Left Side Door open command, engaged the off-platform doors. As the Train Operator engaged with the panel, they faced the front of the train, while reaching backwards to the panel, resulting in disorientation as they went to engage the Door Open left push button.

# Incident Site

Rhode Island Avenue Station, Track 2

# Field Sketch/Schematics



# 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 performed through document review.
- Formal Interview SAFE interviewed one individual as part of this investigation. The interview included the person present at and during the incident. SAFE interviewed the following individual:
  - Train Operator
- Incident Review and Corrective Action Meeting A fact finding and corrective action meeting was held with operations groups to confirm findings, timelines, corrective actions in progress and in development. Attendees included representatives from the following departments:
  - Rail Transportation (RTRA)

- Rail Operations Quality Training (ROQT)
- Safety and Environmental Management (SAFE)
- Documentation Review Collection of relevant work history information and process documentation contained in WMATA systems of record. These records include:
  - Train Operator Training Records
  - Train Operator Certifications
  - Train Operator 30-Day Work History Review
  - Metrorail Safety Rules and Procedures Handbook (MSRPH)
  - National Oceanic Atmospheric Administration (NOAA)
  - Rail Operations Control Center (ROCC) Incident Report
  - Maximo Data
- System Data Recording Review Collection of information contained in Metro Data Recording Systems. This data includes:
  - Audio Recording System (ARS) playback [Radio: Ops. 1 and Landline Communications: Red Line-12051]
  - The Office of Chief Mechanical Officer (CMOR) Incident Investigation Team (IIT) Vehicle Monitoring and Diagnostic System (VMDS)
  - Closed-Circuit Television (CCTV)

## **Investigation**

On Friday, June 11, 2021, at approximately 18:19 hours, the Train Operator of Train ID 115 reported to the ROCC that the Train Control Display (TCD) indicated that car 7375's exterior door emergency handle was activated. The Train Operator informed the ROCC that the displayed fault meant the handle was not properly positioned due to the doors not opening. The Train Operator stated they initially saw this fault displayed at the previous station, Brookland-CUA, but did not report it because they believed the fault would clear by the next station.

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only located on the "B" cars and are oriented to the rear of the "A" car. As a result, the Train Operator became disoriented as they engaged the Door Open left push button, which opened the doors on the off-side of the platform. The doors remained open on the off-side of the platform for approximately eight seconds. At approximately 18:23 hours, the ROCC asked the Train Operator if they were able to reset the doors. Approximately two minutes later, the Train Operator responded the doors were reset but did not report the off-side door opening. A review of the Event Recorder (ER) of Train ID #115 confirmed that an improper door operation occurred.

Upon RTRA Management inquiry, the Train Operator reported the improper door operation at the start of their shift the following day and was immediately transported for post-incident toxicology testing. The Train Operator stated their failure to report the improper door operation was due to being nervous because they had never experienced doors opening on the opposite side of the platform.

The probable cause of this incident was a decision-making error by attempting to reset doors #3 & #4 on car 7375 using the Hostler panel. This action is not in accordance with established training and instruction for door troubleshooting. A causal factor to the incident is that the Hostler panel is oriented to the rear of the car, which meant that the Left Side Door open command, engaged the off-platform doors. As the Train Operator engaged with the panel, they faced the front of the train, while reaching backwards to the panel, resulting in disorientation as they went to engage the Door Open left push button.

## **Chronological Event Timeline**

Time	Description
18:20:16 hours	Train Operator: Informed a ROCC RTC that car 7375 was showing door
	exterior emergency handle fault. The Train Operator stated this meant it
	had been pulled and doors did not open. [Ops. 1]
18:20:31 hours	ROCC RTC: Acknowledged and repeated the Train Operator's radio
	transmission. [Ops. 1]
18:20:37 hours	Train Operator: Confirmed and stated it was the sixth car from the lead car,
	and it was doors 3 and 4 that did not open. [Ops. 1]
18:20:52 hours	ROCC RTC: Acknowledged the radio transmission and asked the Train
	Operator if they were still properly berthed. [Ops. 1]
18:21:01 hours	Train Operator: Confirmed with ROCC RTC that they were still properly
	berthed. [Ops. 1]
18:21:03 hours	ROCC RTC: Instructed the Train Operator to make an announcement to
	the customers, key down, and go investigate. [Ops. 1]
18:21:10 hours	Train Operator: Affirmed and repeated ROCC RTC's instructions. [Ops. 1]
18:21:13 hours	ROCC RTC: Affirmed and asked the Train Operator to give a radio check
	on their handheld radio. [Ops. 1]
18:21:34 hours	ROCC Red Line Supervisor: Contacted Central to inform them that the
	Train Operator at Rhode Island Avenue Station, Track 2, reported that a
	door handle was pulled on the train and was instructed to go investigate.
	Informed Central that Train ID # 115 would be holding for a few minutes.
	[Red Line-1 12051]
18:21:55 hours	Train Operator: Completed radio check on a handheld radio. [Ops. 1]

A review of ARS playback, i.e., radio communications Ops 1 and Red Line 1 (12051), revealed the following timeline:

10.01.50 hours	BOCC BTC: Confirmed radio abook was loud and aloar and instructed the
10.21.30 10015	Train Operator to keep Control advised [Ope 1]
10.00.17 hours	Record Red Line Superviser: Centected Record Acet. Superintendent to
18:22:17 hours	ROCC Red Line Supervisor: Contacted ROCC Asst. Superintendent to
	Inform them that Train Operator Track 2 at Rhode Island Avenue Station
	reported a door relief on car 73/5 and instructed the train operator to
	investigate because it appeared that someone pulled the emergency
	handle. [Red Line-1 12051]
18:23:24 hours	ROCC RTC: Contacted Train Operator for an update. [Ops. 1]
18:23:30 hours	Train Operator: Confirmed that the door exterior emergency handle was
	turned. [Ops. 1]
18:23:38 hours	ROCC RTC: Asked the Train Operator if they were able to reset it. [Ops. 1]
18:23:43 hours	Train Operator: Told ROCC RTC to standby. [Ops. 1]
18:25:32 hours	Train Operator: Informed ROCC RTC that the doors were reset. (Audio was
	distorted) [Ops. 1]
18:25:35 hours	ROCC RTC: Asked for clarity if the doors were reset. [Ops. 1]
18:25:40 hours	Train Operator: Confirmed that the doors were reset. [Ops. 1]
18:25:41 hours	ROCC RTC: Confirmed and instructed the Train Operator to advise when
	they were back in their lead cab. [Ops. 1]
18:25:48 hours	Train Operator: Affirmed. [Ops. 1]
18:27:08 hours	ROCC RTC: Asked the Train Operator if they were able to get all doors
	closed. [Ops. 1]
18:27:13 hours	Train Operator: Confirmed and stated they were moving at that time. [Ops.
18:27:16 hours	ROCC RTC: Acknowledged and thanked the Train Operator for their work.
	[Ops. 1]
18:27:45 hours	ROCC Red Line Supervisor: Informed ROCC Asst. Sup. that Train ID #115
	was moving. [Red Line-1 12051]

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

# The Office of Chief Mechanical Officer (CMOR) / Vehicle Monitoring and Diagnostic System (VMDS) Timeline

• This incident originated at Fort Totten Station, Track 2 at approximately 18:14:07 when a passenger partially activated the emergency door handle on Door 3/4 at Car 7375 [the partially activated handle induced the fault "DOOR EXTERIOR EM HANDLE" and disabled door pair 3/4 in the closed position]. "DOOR EXTERIOR EM HANDLE" fault was present on the *Train Control Display [TCD]*.

							CONTROL LOCK		
7375	VMDS	SECONDARY	6/11/2021	20:53:26	EVENT	EVT001	KEY ON		
							CONTROL LOCK		
7375	VMDS	SECONDARY	6/11/2021	18:25:09	EVENT	EVT001	KEY ON	Reset	
							CONTROL LOCK		
7375	VMDS	SECONDARY	6/11/2021	18:24:12	EVENT	EVT001	KEY ON		
							DOOR EXTERIOR		
7375	VMDS	SECONDARY	6/11/2021	18:23:20	DOOR	DOR003	EM HANDLE	Reset	304
							DOOR NOT		
7375	VMDS	SECONDARY	6/11/2021	18:21:41	DOOR	DOR010	OPENED	Reset	304
							DOOR NOT		
7375	VMDS	SECONDARY	6/11/2021	18:16:55	DOOR	DOR010	OPENED		304
							DOOR EXTERIOR		
7375	VMDS	SECONDARY	6/11/2021	<u> 18:14:07</u>	DOOR	DOR003	EM HANDLE		304

Note: 7375 VMDS log, highlighted line showing the time the customer partially activated the emergency door handle.

• At approximately 18:16:51, the consist serviced Brookland Station, but doors 3/4 failed to open due to the aforementioned condition. At this time, both "DOOR EXTERIOR EM HANDLE" and "DOOR NOT OPENED" faults were present on the lead car's TCD.

7375	VMDS	SECONDARY	6/11/2021	20:53:26	EVENT	EVT001	CONTROL LOCK KEY ON		
7375	VMDS	SECONDARY	6/11/2021	18:25:09	EVENT	EVT001	CONTROL LOCK KEY ON	Reset	
7375	VMDS	SECONDARY	6/11/2021	18:24:12	EVENT	EVT001	CONTROL LOCK KEY ON		
							DOOR EXTERIOR EM		
7375	VMDS	SECONDARY	6/11/2021	18:23:20	DOOR	DOR003	HANDLE	Reset	304
7375	VMDS	SECONDARY	6/11/2021	18:21:41	DOOR	DOR010	DOOR NOT OPENED	Reset	304
7375	VMDS	SECONDARY	6/11/2021	18:16:55	DOOR	DOR010	DOOR NOT OPENED		304
							DOOR EXTERIOR EM		
7375	VMDS	SECONDARY	6/11/2021	18:14:07	DOOR	DOR003	HANDLE		304

Note: 7375 VMDS log, highlighted line showing the time the doors 3/4 failed to open.

 At approximately 18:19:18 consist opened the left side doors [automatically] at Rhode Island Ave. The fault "DOOR EXTERIOR EM HANDLE" was reported to ROCC [based on radio transmission], consist was keyed down. The operator was observed [Network Video Recorder footage] to have secured the lead cab and proceeded to investigate.



Figure 1: Lead Car 7424 ER showing data analysis.

• At approximately 18:23:20, the emergency door 3/4 handle was normalized at car 7375 and fault reset. [see highlights below]

7375	VMDS	SECONDARY	6/11/2021	20:53:26	EVENT	EVT001	CONTROL LOCK KEY ON		
7375	VMDS	SECONDARY	6/11/2021	18:25:09	EVENT	EVT001	CONTROL LOCK KEY ON	Reset	
7375	VMDS	SECONDARY	6/11/2021	18:24:12	EVENT	EVT001	CONTROL LOCK KEY ON		
7375	VMDS	SECONDARY	6/11/2021	18:23:20	DOOR	DOR003	DOOR EXTERIOR EM HANDLE	Reset	304
7375	VMDS	SECONDARY	6/11/2021	18:21:41	DOOR	DOR010	DOOR NOT OPENED	Reset	304
7375	VMDS	SECONDARY	6/11/2021	18:16:55	DOOR	DOR010	DOOR NOT OPENED		304
7375	VMDS	SECONDARY	6/11/2021	18:14:07	DOOR	DOR003	DOOR EXTERIOR EM HANDLE		304

Note: 7375 VMDS log showing fault "DOOR EXTERIOR EM HANDLE" was reset.

- After normalizing the emergency handle, the following actions were performed at 7375's Hostler panel:
  - 1. 7375 Hostler was keyed up.
  - 2. Door close on hostler was depressed, doors closed and All Doors Closed was achieved.
  - 3. The door open left push button was depressed on the Hostler panel [since this hostler was in the opposite orientation of the lead car, doors open on the opposite side of the platform].
  - 4. The door open right push button was depressed on the Hostler panel, and doors open on the platform side.
  - 5. The door Close push button was depressed, All Doors Closed indication was achieved.
  - 6. Hostler was keyed down.
  - 7. Hostler was keyed up.
  - 8. The door open right push button was depressed on the Hostler panel, and doors open on the platform side.
  - 9. Hostler was keyed down.



Figure 2: Operator Keyed up on the lead car 7424 and continue run towards Shady Grove.

# Automated Information Management System (AIMS)



#### B04-2 TWC and Occupancy Data

Figure 3: The doors opening on the wrong side were not recorded on the AIM data **because the door operation was performed from a belly car** (If the Belly Car is Transmitting a message, the axle in front of it will short the message and will not make it to wayside equipment). Wayside equipment never received information of the door operation on the opposite side of the platform.





Figure 5: Image of the Train Operator identifying the exterior emergency door handle cover ajar



Figure 6: The interior NVR still shot shows the doors opened on the opposite of the platform.



Figure 7: Image shows Train Operator depressing the Open Door left button on the Hostler panel.

## Interview Findings

Based on the investigation launched into the Rhode Island Station Improper door operation event, SAFE conducted <u>one</u> interview via Microsoft teams, including the investigation team, relevant Metro management and the Washington Metrorail Safety Commission (WMSC). The interview was conducted two calendar days after the event and identified the following:

The Train Operator has been a train operator for six years and last certified in their position in March 2021. The Train Operator reported no prior safety infractions as a train operator. On the day of the event, the Train Operator stated they initially saw the fault for the exterior door emergency release for doors #3/#4 on car 7375 at Brookland Station but did not report it to ROCC because they believed the fault would clear (reset) by the next station. The Train Operator stated they reported the exterior door emergency release fault to ROCC once they arrived at Rhode Island Avenue Station because the fault for doors #3 & #4 on car 7375 did not clear, and the doors did not open. On arrival at car 7375, the Train Operator saw that the exterior emergency

door release panel was up and attempted to turn the release to the correct position, but the door did not respond. The Train Operator tried to resolve the issue by keying up on car 7375 using the Hostler panel to physically see if the doors would open. In the process, the Train Operator was disoriented because they were facing the opposite direction (rear of the consist) at the panel. Because of this, the door operations commands were in reverse orientation to the train's travel direction. The troubleshooting of doors #3 and #4 was not instructed or assisted by ROCC RTC, as assistance was not requested.

The Train Operator stated they were nervous and afraid after seeing the doors open on the opposite side and did not report it to the ROCC RTC. This was Train Operator's first time troubleshooting a door issue outside of training or certification. The Train Operator stated that in order to know if the doors are reset, you need to see if the doors will open or close because if not, the doors will need to be cut out. The Train Operator stated that they would be willing to report this type of event to the close call reporting system in the future.

The Train Operator reported receiving training on how to use the Hostler panel. They used the panel during this event to speed up resetting the doors to return to service.

# <u>Findings</u>

- An unknown customer partially pulled the exterior emergency release handle at Fort Totten Station. The fault registered immediately within the VMDS on the lead car.
- Due to the partially engaged exterior emergency handle, Doors #3 and #4 of car 7375 did not open at Brookland Station nor at Rhode Island Avenue Station.
- Doors #3 and #4 operated as designed and "locked out" in the closed position based on the position of the exterior emergency release handle.
- The Train Operator reported that they initially recognized the exterior emergency door release was showing fault on doors #3 & #4 on 7375 at Brookland Station.
- The Train Operator reported the fault to the ROCC when they arrived at Rhode Island Station due to doors #3 and #4 failing to open.
- The Train Operator failed to report that the doors opened on the opposite side of the platform.
- The Train Operator used the Hostler panel on a "B" car to reset the doors on car 7375.
- Train Operators are not trained to use the Hostler panel to troubleshoot door issues. Troubleshooting is performed in training on the "A" car from the Operator's cab.
- The door controls on the Hostler panel on the "B" car are in opposite directional orientation to the lead car.
- The 7000-Series trains show faults, but the level of importance varies. The faults that are white are informational alerts for the operators; the yellow and red faults are higher priority and must be addressed before proceeding.
- Due to the Train Operator's failure to report the incident, a ground walkaround to verify that no passengers were on the roadway was not completed per MSRPH 3.121 which states, "In the event train doors are opened outside the platform limits or on the off side of the platform, Train Operators shall close doors, notify ROCC and conduct a ground walkaround inspection."

## <u>Weather</u>

On June 11, 2021, at the time of the incident, NOAA recorded the temperature as 71 ° F, with clear skies throughout the afternoon. The weather was not a contributing factor in this incident (Weather source: NOAA) – Location: Washington, DC.)

## Human Factors

## Evidence of Fatigue

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

Based on SAFE's review of the Train Operator's work history, the employee's 30-day work schedule leading up to the incident was compliant with WMATA'S Policy/Instruction10.6/1 Hours of Service Limitations for Prevention of Fatigue. The Operator's schedule did not present a risk of impairment due to fatigue.

## Fatigue Risk

Data was evaluated for fatigue risk factors. No significant risk was identified. The incident time of day did not suggest an increased risk of fatigue-related impairment. The Operator reported keeping a regular sleep schedule in the days leading up to the incident. The Operator worked 08:40 - 19:40 in the days leading up to the incident and was awake for 12.9 hours at the time of the incident. The employee reported eight hours of sleep in the 24 hours preceding the incident. The off-duty period was 20:00 - 08:00, which provides an opportunity for 7-9 hours of sleep. This was a comparable amount to the employee's usual workday sleep durations. The employee reported no issues with sleep. The employee worked 08:40 - 19:40 in the days leading up to the incident.

Since fatigue evidence and risk factors were not present, the biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied.

## Post-Incident Toxicology Testing

WMATA's Drug and Alcohol Program determined that the Train Operator was not in violation of the Drug and Alcohol Policy and Testing Program 7.7.3/6.

### Immediate Mitigation to Prevent Recurrence

- Train Operator was removed from service for post-incident toxicology testing.
- Train Operator received progressive disciplinary action in accordance with the Collective Bargaining Agreement.

## Probable Cause Statement

The probable cause of this incident was a decision-making error by attempting to reset doors #3 & #4 on car 7375 using the Hostler panel. This action is not in accordance with established training and instruction for door troubleshooting. A causal factor to the incident is that the Hostler panel is

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oriented to the rear of the car, which meant that the Left Side Door open command, engaged the off-platform doors. As the Train Operator engaged with the panel, they faced the front of the train, while reaching backwards to the panel, resulting in disorientation as they went to engage the Door Open left push button.

# SAFE Recommendations/Corrective Actions

Corrective Action Code	Description
93879_SAFECAPS BTRA_001	Schedule and ensure the Train Operator completes refresher training on Door Troubleshooting procedures
93879_SAFECAPS _RTRA_002	Add emphasis on requirement to report incidents and unusual occurrences on the rail roadway to the regular cycle of Rail Operations Personnel Notices (ROPN). ROPN are posted at divisions, terminals and towers and used as topics in RTRA supervisors' safety conversations with personnel. <i>As of this report, notices were issued on July 12, 15 and August 6, 2021.</i>
93879_SAFECAPS _RTRA_003	In the next revision of the "Train Operations Guide & Procedural Checklists" document, add information describing the fault color codes and required actions associated with the 7000-series trains.

# **Appendices**

# Appendix A – Interview Summary

The Train Operator has been a WMATA employee for 13.5 years (6 years as a Train Operator, four years as a Station Manager, and 3.5 years as a Bus Operator). The Train Operator was last certified in March of 2021 and is currently RWP-2 certified. They had no history of sleep issues to report.

The below narrative summarizes the interview with SAFE and represents the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

Train Operator stated their trouble screen was showing fault to the exterior emergency door release for doors #3 and #4 on Car 7375, which caused the doors not to open on the platform side and all other doors on Car 7375. Train Operator reported ROCC instructed them to make announcements, key down, and investigate. Upon investigating, Train Operator stated the cover for the door latch was in the up position, and when they turned the latch, the doors did not respond and remained closed. The Train Operator stated their Intentions were to key up on Car 7375 and physically see the doors open, then return to the lead car to close the doors. Train Operator reported being disoriented as they were facing the rear of the consist and opened doors on the non-platform side in Car 7375. Train Operator then closed the doors on Car 7375 and returned to the lead cab. Train Operator stated they did not report this incident because they were afraid and nervous. Train Operator reported they experienced the same door issue at Brookland-CUA Station but did initially report it because sometimes faults will clear themselves when they arrive at the next station. Train Operator stated they made a mistake, and they think the best way they could have mitigated the situation was to receive permission to cut the door out, go back to the lead car to close all doors, and continue on with a request for CMNT to board the train at the next stop.

# Appendix B – Photograph circulated on Social Media



## Appendix C – Door Controls



## Appendix D - Root Cause Analysis



