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WMSC Commissioner Brief: W-0067 – Improper Movement – Metro Center Station – September 20, 2020

Prepared for Washington Metrorail Safety Commission meeting on March 2, 2021

Safety event summary:

A Train Operator whose train had just gone out of service at Metro Center Station due to door problems (inability to open doors from the lead car) and who could not resolve the problems by recycling Automatic Train Protection (ATP), Automatic Train Operation (ATO) and Automatic Train Supervision (ATS) moved the train with ATP cut out without the Rail Operations Control Center granting required permission to move.

ATP is the system intended to protect against speeding and collisions by keeping appropriate train separation. The ATP system includes speed commands based on signals and track occupancy ahead of the train.

With ATP cut out, Metrorail rules required additional protections in place for movement through the use of absolute blocks to reduce the risk of a collision, with a maximum speed of 10 mph. An absolute block designates a section of track that is clear both ahead of and behind the designated consist. The Train Operator in this case moved the train without an absolute block from the ROCC.

After attempting to cycle systems to correct the issue did not produce any positive results, and the ROCC directing the train operator to use their handheld radio antenna to push the door control button further in, the ROCC directed the train operator to move to the fifth car of the train to use that cab to open the doors for customers. Customers offloaded at 11:39 a.m., 14 minutes after the train berthed on the platform.

The ROCC directed the train operator to cut out ATP because the train would not move.

At 11:49 a.m., CCTV shows the Train Operator moved the train toward Federal Triangle Station without any direction or permission to do so from the ROCC. The train nearly reached Federal Triangle Station before stopping for further instruction at the direction of the ROCC. The Train Operator had told the ROCC that ATP had not yet been cut out, and then when the ROCC checked back again, the Train Operator stated that they had ATP cut out and were moving. Vehicle data shows the train moved 3,416 feet reaching a top speed of nearly 20 mph.

The ROCC then gave an absolute block to Federal Triangle where a Rail Supervisor boarded the train. Additional blocks were provided to move the train to West Falls Church Yard via the Smithsonian interlocking.

Metrorail did not comply with the two-hour notification window requirement to the WMSC for this event (this event required notification only to the WMSC, and was not an event requiring FTA two-hour notification).

Probable Cause:

The probable cause of this event was inadequate training on unusual situations such as SOP 15, and the pressure the Train Operator perceived to rush to restore regular service.

Corrective Actions:

Metrorail replaced the defective door control panel.

The Train Operator received refresher training on SOP 15 (Absolute Block and Permissive Block).

Metrorail has also developed a “Lessons Learned” document focused on SOP 15 and providing specific responsibilities for train operators and ROCC personnel when it is necessary to cut out ATP.

WMSC staff observations:

Emergency situations or breakdowns should be rare, which makes it all the more important to have regular, recurring adequately detailed and experiential training on these unusual situations to ensure they are handled in accordance with procedures. The need for refresher training on these types of rules and situations was previously identified and communicated to Metrorail by the Tri-State Oversight Committee (TOC) in the TOC’s 2017 RTRA Audit.

Staff recommendation: Adopt final report.

Washington Metro Area Transit Authority
Department of Safety and Environmental Management (SAFE)

FINAL REPORT OF INVESTIGATION A&I E20359

Date of Event:	9/20/2020
Type of Event:	Improper Railcar Movement
Incident Time:	11:49 hrs.
Location:	Metro Center Station, Track #1
Time and How received by SAFE:	12:20 hrs., On-Call Phone
WMSC Notification Time:	14:18 hrs.
Rail Vehicle:	Train ID #601 L7344-7345.7397.7396-7382.7383-7079.7078T
Injuries:	None
Damage:	None

Metro Center Station – Improper Railcar Movement

September 20, 2020

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Abbreviations and Acronyms

AIMS	Automated Information Management System
ARS	Audio Recording System
ATP	Automatic Train Protection
ATO	Automatic Train Operation
ATS	Automatic Train Supervision
CENV	Vehicle Program Services
CCTV	Closed-Circuit Television
CMNT	Department of Car Maintenance
ER	Event Recorder
MSRPH	Metrorail Safety Rules and Procedures Handbook
NOAA	National Oceanic Atmospheric Administration
ROCC	Rail Operations Control Center
RTC	Rail Traffic Controller
RTRA	Office of Rail Transportation
SAFE	Department of Safety and Environmental Management
TCD	Train Control Display
VMDS	Vehicle Monitoring and Diagnostic System
WMATA	Washington Metropolitan Area Transit Authority

Executive Summary

On Sunday, September 20, 2020, at approximately 12:20 hrs., a West Falls Church Yard Train Operator, operating Train ID #601, experienced a door malfunction resulting in a customer offload at Metro Center Station, Track #1. After checking for customers, the Train Operator notified the Radio Rail Traffic Controller (RTC) their consist [L7344-7345.7397.7396-7382.7383-7079.7078T] would not move. The Rail Operations Control Center (ROCC) Radio RTC instructed the Train Operator to cut out Automatic Train Protection (ATP), then verify the Train Control Display (TCD) displayed an ATP CUT OUT indication. The Train Operator subsequently moved the consist [inbound] in the direction of Federal Triangle Station without speed commands and without permission from the Radio RTC to move the consist.

Based on Audio Recording System (ARS) playback [radio and ambient], after the Radio RTC transmitted instructions, the Train Operator moved the consist without an absolute or permissive block established by ROCC. The Radio RTC instructed the Train Operator to recycle ATP, Automatic Train Operation (ATO), and Automatic Train Supervision (ATS). After recycling, the Train Operator could not perform a left side door operation [open]. The Radio RTC then instructed the Train Operator to proceed to the fifth car and perform left side door operations. After offloading customers at Metro Center, the Train Operator repeated recycling tests of the aforementioned associated breakers. Those troubleshooting efforts yielded negative results.

According to Closed-Circuit Television (CCTV), at 11:49 hrs., the Train Operator moved the incident consist inbound on Track #1, towards Federal Triangle Station. At 11:50 hrs., the Radio RTC contacted Train ID #601 Train Operator to verify if the Train Operator had cut out ATP. The Train Operator confirmed they had cut out ATP, and the Radio RTC informed the Train Operator they could not move without an absolute block while ATP is cut out. The ROCC established an absolute block to move the incident consist to Federal Triangle Station safely. Upon arrival, the Radio RTC instructed an Office of Rail Transportation (RTRA) Supervisor to board the consist.

The probable cause of this event was inadequate training on unusual situations such as SOP 15, and the pressure the Train Operator perceived to rush to restore regular service. After Train Operator cut out ATP, they did not confirm or receive an absolute block from the ROCC before moving the consist with ATP cut out. This action is not in compliance with Standard Operating Procedure SOP #15 under Train Movement and Train Operating SOP's Section [Absolute Block/Permissive Block] within the Metrorail Safety Rules and Procedures Handbook (MSRPH).

This action resulted in the Train Operator being removed from service for an improper train movement. Note: ATP function provides proper train separation and acts as a collision prevention system and Overspeed detection. Due to the mechanical failure,

the Train Operator cut out ATP to move the incident consist. As a result, the train protection system is no longer in operational status. When ATP is deactivated, ROCC is required to provide an Absolute Block [a section of track that shall not be occupied by more than one train or track equipment] and proceed at a restricted speed [10 mph].

Upon report of the improper railcar movement, SAFE analyzed data collected, reviewed submitted documentation, and informal interviews with staff. Based on a review of the MSRPH, Train Operator was not in compliance with the following Rules:

(1) Section 1 – General Rule: 1.73 – *"Employees shall not knowingly transmit, nor cause to be transmitted, any unnecessary, irrelevant, unidentified, false, or false emergency communications."*

(2) Section 3 – Operating Rule: 3.27 – *"After a Class I vehicle has been operated in Mode 3, or when the ATP C/O switch has been moved to the CUT OUT position for any reason, the train must be moved under a permissive or absolute block, not to exceed 10 mph or less, or as directed by ROCC. The train operator must be prepared to stop within half the range of vision, short of any train, obstruction, broken rail, or improperly aligned switch."*

(3) Section 3 – Operating Rule: 3.79 – "Train Operators shall not move trains with zero speed commands except after notifying ROCC and being given permission to move with zero speed commands and either a permissive block for the move going with traffic or an absolute block for the move going against traffic (see SOP #15).

The Train Operator moved their train without having an absolute block while ATP was cut out. This action is not in compliance with MSRPH SOP #15.

- *15.2.1.1.1 – "When the wayside ATP subsystem fails or is otherwise prevented from safely providing a cleared signal or valid speed command to one or more trains."*

The Train Operator confirmed that ATC was cut out and there were no speed commands available. After the train was offloaded, the Train Operator moved the consist without speed commands and having an established absolute block from ROCC.

As a result of this investigation, SAFE makes the following recommendations:

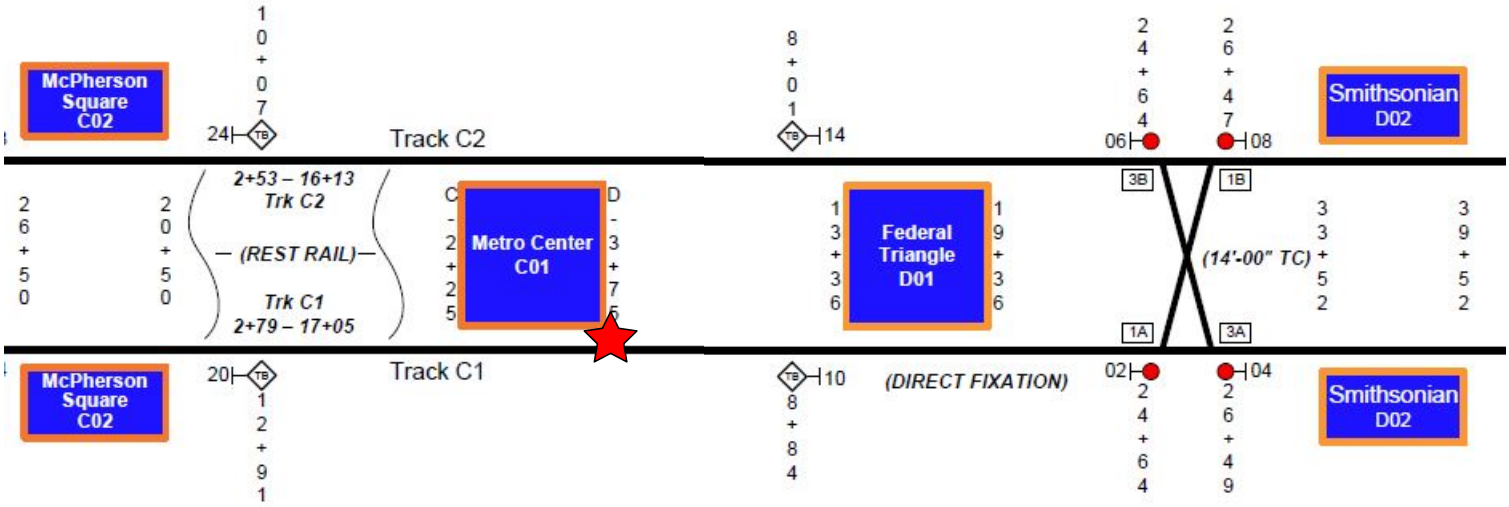
To RTRA, re-instruct the Train Operator on SOP #15 rules and procedures.

To RTRA & ROCC, undertake a review of this event and develop a Lessons Learned with an emphasis on SOP #15. Expound on the responsibilities of Train Operators and ROCC personnel when initiating this operation.

Incident Site

Metro Center Station, Track #1

Field Sketch/Diagram



Purpose and Scope

The purpose of this incident 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:

- Physical Site Assessment

- Formal Interviews – SAFE interviewed two (2) individuals as part of this investigation. Interviews included persons present at, during, and after the incident, those directly involved in the response process. SAFE interviewed the following individuals:
    - Train Operator
    - RTRA Supervisor

- Documentation Review – A collection of relevant work history information and process documentation contained in Metro systems of record. These records include:
    - Train Operator's Training Procedures & Records
    - Train Operator's Certifications
    - Train Operator's 30-Day work history review
    - MSRPH
    - National Oceanic Atmospheric Administration (NOAA)

- System Data Recording Review - A collection of information contained in Metro Data Recording Systems This data includes:
    - ARS playback [Radio and Phone Communications]
    - CCTV
    - AIMS Playback
    - Vehicle Program Services (CENV) Vehicle Monitoring and Diagnostic System (VMDS).

Investigation

Based on the investigative findings, at approximately 11:25 hrs., a Train Operator experienced a door malfunction. This door malfunction resulted in a customer offload at Metro Center Station, Track #1 [L7344-7345.7397.7396-7382.7383- 7079.7078T]. The Train Operator incorrectly declared an emergency via radio to ROCC for doors not being able to open. The Radio RTC assisted the Train Operator through cycling tests to correct the door malfunction with no positive results. The Train Operator was then instructed to proceed to the fifth car to perform left side door operations. At approximately 11:39 hrs., doors were opened, and customers were offloaded from Train ID #601 at Metro Center Station. The consist Train ID was changed to #701 at 11:42

hrs., while the Radio RTC continued to assist the Train Operator in troubleshooting the malfunction. At approximately 11:49 hrs., the Train Operator was seen by ROCC moving the consist via CCTV in the direction of Federal Triangle Station without permission or guidance from the Radio RTC. The Radio RTC contacted the Train Operator and informed them that an absolute block was needed in order to move with ATP cut out and no speed commands. The Train Operator acknowledged and waited for ROCC to establish an absolute block.

After an absolute block was established, the Radio RTC instructed the Train Operator to proceed and pick up the RTRA Supervisor at Federal Triangle Station. Once onboard, the Radio RTC instructed the RTRA Supervisor to verify if ATP is cut out and if speed commands are visible. The RTRA Supervisor confirmed the train status and notified the Radio RTC that ATP was cut out and no speed commands were observed. The Radio RTC then informed the RTA Supervisor they have an absolute block to clear Smithsonian Station through Federal Triangle Station, Track #1 Platform, key down and reverse ends, speed not to exceed 10 mph, then proceed to West Falls Church Yard for further instruction. At approximately 11:58 hrs., the Radio RTC then instructed the RTRA Supervisor to assume operation [take control] of the consist.

Further ARS playback review verified, the Radio RTC did not give the Train Operator instructions to move the consist while ATP was cut out. The Train Operator moved the consist with ROCC authorization and verified their actions when asked by ROCC. As a result of the event, the Train Operator was removed from service.

AIMS Playback

Illustration #1 - Train ID #701 stationary at Metro Center.

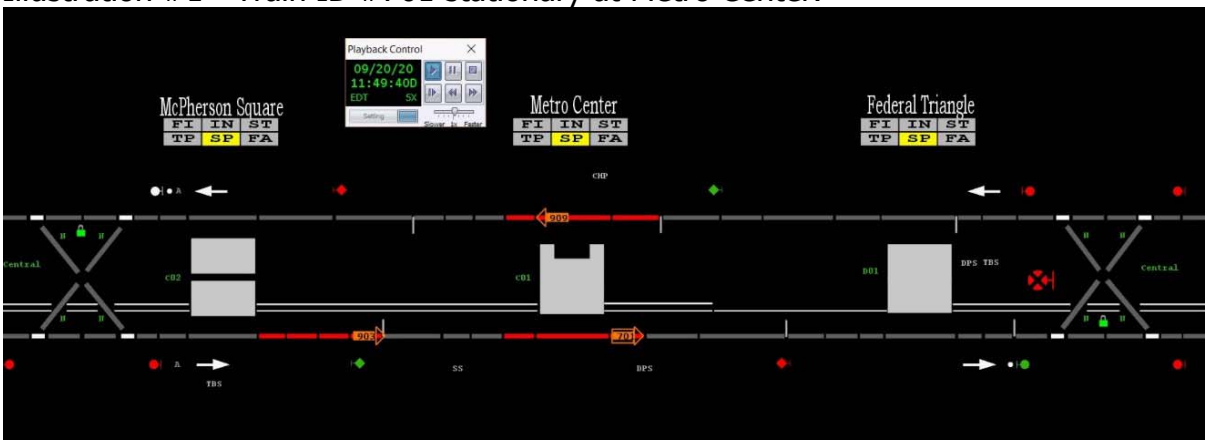


Illustration #2 - Train ID #701 begins to move towards the Federal Triangle Station.

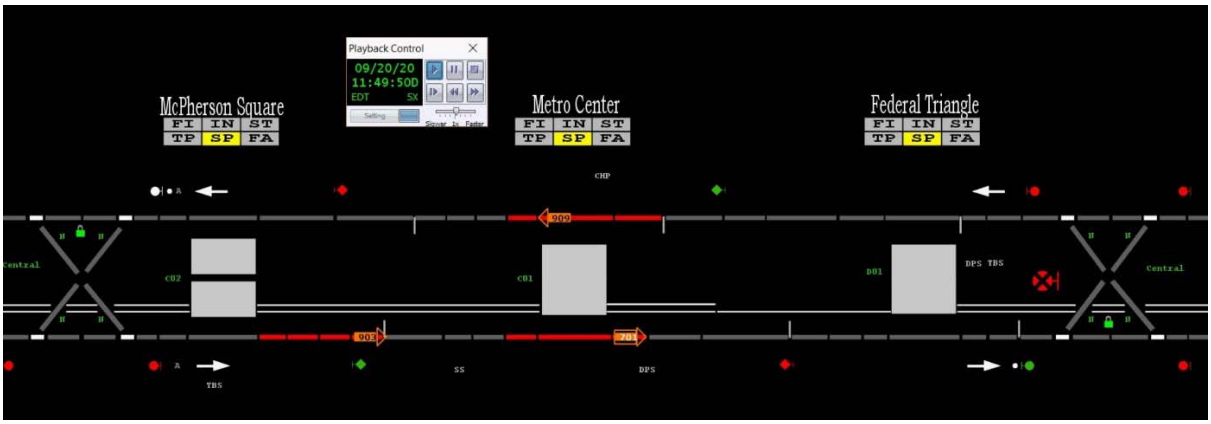


Illustration #3 - Train ID #701 traveling towards Federal Triangle with ATP cut out and no absolute block.

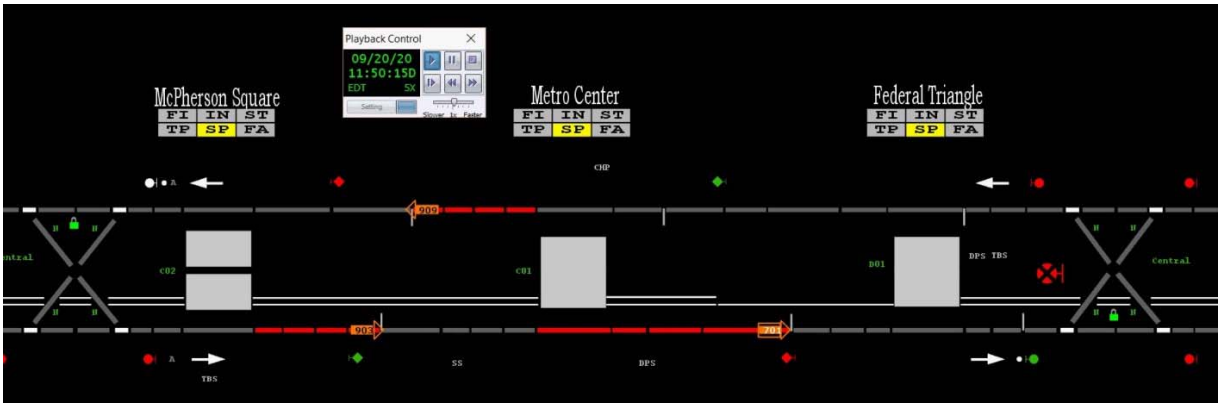
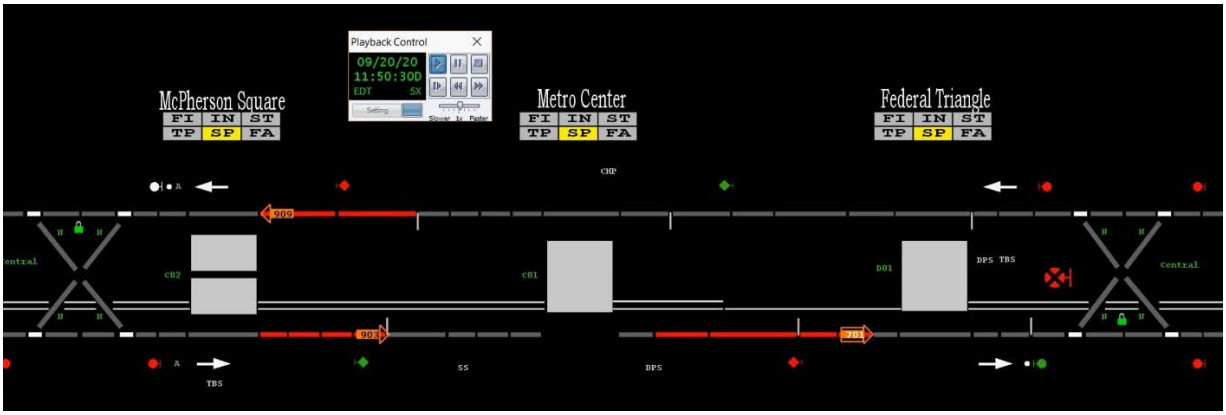


Illustration #4 - Train ID #701 comes to a complete stop to receive absolute block from ROCC.



Chronological Event Timeline

ARS playback and CCTV Analysis revealed:

Time	Description
11:25:02 hrs.	Consist stops at 8-car marker, Metro Center, Track #1. [CCTV].
11:28:14 hrs.	Train ID #601 Train Operator calls emergency via radio for doors not opening [Radio]
11:30:30 hrs.	The Train Operator informed the Radio RTC of ATC fail, ATS fault, ATO fault on lead car #7344. Packages have been recycled.[Radio]
11:30:42 hrs.	The Radio RTC asked if doors can be opened.[Radio]
11:31:04 hrs.	The Radio RTC instructed the Train Operator to go to the fifth car to see if doors can be opened.[Radio]
11:31:26 hrs.	The Radio RTC instructed the Train Operator to use the radio antenna to press the door open control circuit breaker. [Radio]
11:31:38 hrs.	The Train Operator acknowledged the Radio RTC request to use the radio to press the door open control circuit breaker. [Radio]
11:36:32 hrs.	The Train Operator reports after recycling, the door open button was pressed with no action. [Radio]
11:36:36 hrs.	The Radio RTC instructed the Train Operator to go to the fifth car to offload the train. Train Operator acknowledged. [Radio]
11:39:08 hrs.	Doors open and customers were offloaded, Metro Center, Track #1 [CCTV].
11:42:57 hrs.	The Radio RTC then instructed the Train Operator to change Train ID #601 to Train ID #701. [Radio]
11:49:50 hrs.	Consist moved in the direction of Federal Triangle Station, Track #1 [CCTV].
11:50:10 hrs.	The Radio RTC asked Train ID #701 Train Operator if ATP is cut out.
11:50:14 hrs.	Train ID #701 Train Operator reported the train was moving to Federal Triangle. [Radio]
11:50:19 hrs.	The Radio RTC informed Train ID #701 Train Operator of the block requirement in order to move with ATP cut out. [Radio]
11:50:33 hrs.	The Radio RTC informed Train ID #701 Train Operator they have an absolute block Federal Triangle Station, Track #1, and to pick up the RTRA Supervisor. [Radio]
11:50:47 hrs.	Train ID #701 Train Operator acknowledged absolute block Federal Triangle Station, Track #1, and picked up the RTRA Supervisor.[Radio]

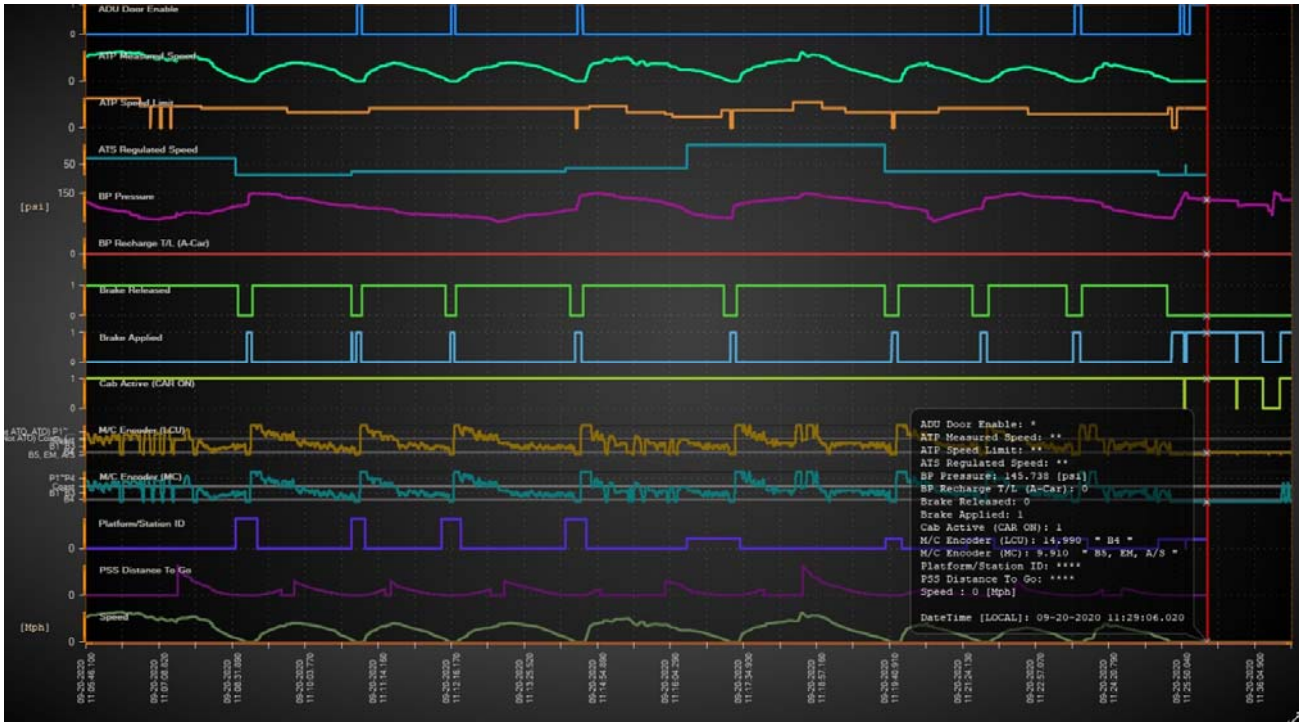
11:52:20 hrs.	ROCC contacted the RTRA Supervisor on board Train ID #701. The RTRA Supervisor confirmed via radio ATP is cut out. [Radio]
11:52:34 hrs.	ROCC informed the RTRA Supervisor they have an absolute block to clear D02 D04 Smithsonian, Track #1 Platform, key down and reverse ends, speed not to exceed 10 mph.[Radio]
11:52:50 hrs.	The RTRA Supervisor acknowledged they have an absolute block to clear D02 Smithsonian to Federal Triangle SW, Track #1 Platform, key down and reverse ends, speed not to exceed 10 mph. [Radio]
11:53:37 hrs.	The Radio RTC instructs RTRA Supervisor to have the Train Operator head to West Falls end, clear the interlocking at Smithsonian and take the train to West Falls.[Radio]
11:58:11 hrs.	The Radio RTC instructs RTRA Supervisor to take over operations of Train ID #701. [Radio]
12:10:05 hrs.	The Radio RTC instructs RTRA Supervisor Train Operator is being removed from service. [Radio]

Vehicles Program Services (CENV)

CENV VMDS: ATP Cut Out Timeline

Time	Description
11:25:47 hrs.	The Train Operator activated the Left Door Open Pushbutton several times. (Doors did not open).
11:29:06 hrs.	The Train Operator cycled ATC Circuit Breaker.
11:47:50 hrs.	The Train Operator moved the Master Controller from Auto Store to Coast (Brakes are released) to B5.
11:48:19 hrs.	The Train Operator moved the Master Controller from B5 to Coast (Brakes are released) to B5 (Signals did not indicate any attempt to take a point of power).
11:49:38 hrs.	The Train Operator activated ATP cut out.
11:49:46 hrs.	Point of power is achieved, and the car begins to accelerate.
11:49:46 hrs. – 11:54:42 hrs.	The car traveled a distance of 3,416.16 feet with speeds under 20 mph.
11:54:42 hrs.	The Train Operator keyed down Car 7344.

Diagram 1- Event Recorder (ER) graphical analysis.



Department of Car Maintenance (CMNT)

CMNT inspected Car 7344 and discovered a defective left Door Control Panel, which prevented the left side doors to open when commanded by the Train Operator. CMNT replaced the defective left Door Control Panel due to intermittency and performed an operational check with no further failures.

Interview Findings

Based on the investigation launched into the Improper Railcar Movement Incident, SAFE conducted two (2) interviews. These interviews identified the following key findings associated with this event, as follows:

The Train Operator stated they were experiencing door mechanical issues that continued until they reached Metro Center Station. Upon following ROCC instructions, the Train Operator said they felt rushed, which contributed to not following proper train controls. The Train Operator acknowledges they needed an absolute block to move the train with zero speed commands and familiar with the contents of SOP #15.

The RTRA Supervisor stated as they observed the Train Operator operate the consist, the Train Operator appeared confident in their control of the rail vehicle. However, the Train Operator also seemed a little rattled from the incident. The RTRA Supervisor reported Train Operators rarely undergo refresher training on SOP #15, and annual training may be needed.

Findings

- The Train Operator did not follow procedures within the MSRPH by not confirming an absolute or permissive block was established by the ROCC prior to moving the railcar without speed commands, and ATP CUT OUT. This action is not in compliance with MSRPH Section 3 – Operating Rule: 3.27. which states, *"After a Class I vehicle has been operated in Mode 3, or when the ATP C/O switch has been moved to the CUT OUT position for any reason, the train must be moved under a permissive or absolute block not to exceed 10 mph or less, or as directed by ROCC. The train operator must be prepared to stop within half the range of vision, short of any train, obstruction, broken rail, or improperly aligned switch."*
- The Train Operator moved the consist with zero speed commands while not having an absolute block. This action is not in compliance with MSRPH Section 3 –Operating Rule: 3.79, which states, "*Train Operators shall not move trains with zero speed commands except after notifying ROCC and being given permission to move with zero speed commands and either a permissive block for the move going with traffic or an absolute block for the move going against traffic (see SOP #15)."*
- The Train Operator erroneously communicated an emergency situation by stating "Emergency, Emergency, Emergency" via radio to ROCC which did not involve a hazardous condition which could result in death or injury, damage to property, or cause a serious disruption in operations. This action is not in compliance with MSRPH Section 1 – General Rule: 1.73 – *"Employees shall not knowingly transmit, nor cause to be transmitted, any unnecessary, irrelevant, unidentified, false, or false emergency communications."*
- Train ID #601 lead car #7344 experienced a mechanical door malfunction, which subsequently contributed to this event.

Weather

At the time of the incident, NOAA recorded the temperature at 64° F with passing clouds and no visibility concerns. SAFE has concluded that weather was not a contributing factor in this incident (Weather source: NOAA – Location: Washington, DC.)

Human Factors

Fatigue

Based on SAFE's interview questions related to Fatigue Factors and review of the Train Operator's 30-day work history, SAFE determined the Train Operator's 30-day work schedule leading up to the incident was compliant with WMATA's Policy/Instruction 10.6/1 Hours of Service Limitations for Prevention of Fatigue. It did not present a significant risk of impairment due to fatigue. Based on a formal interview, no personal factors would have increased the likelihood of fatigue-related impairment. The Train Operator had no history of sleep issues to report.

Post-Incident Toxicology Testing

After reviewing the Train Operator's post-incident testing results, SAFE determined the Train Operator involved was not in violation of the Drug and Alcohol Policy and Testing Program 7.7. 3/5.

Probable Cause Statement

The probable cause of this event was inadequate training on unusual situations such as SOP 15, and the pressure the Train Operator perceived to rush to restore regular service.

SAFE Recommendations

As a result of this investigation, SAFE makes the following recommendations:

To RTRA, re-instruct the Train Operator on SOP #15 rules and procedures in addition to situations that constitute an emergency.

To RTRA, undertake a review of this event and develop a Lessons Learned with an emphasis on SOP #15. Expound on the responsibilities of Train Operator's and ROCC personnel when initiating this operation.

Appendix A - Interviews

Interview Details

Train Operator

This employee is a WMATA Train Operator with two (2) years of experience as a Train Operator and two (2) years of service as a Bus Operator. The Train Operator's last certification was in February 2020 and has no history of sleep issues to report.

Based on the SAFE interview, the Train Operator reported that they had a mechanical issue with opening the doors while at Metro Center Station, Track #1. Train Operator stated they keyed down the train and attempted to open doors a second time but was unsuccessful. Afterward, they reported they contacted ROCC and ROCC instructed them to recycle ATC Package two times and reset the battery system breaker. The Train Operator said the train dumped and went dark, and after one minute, they performed another reset. At this point, Train Operator stated they could not get brakes off, and ROCC instructed them to cut out ATP; Train Operator complied. The Train Operator said they were not sure if they had speed commands. However, when they finally got the brakes released, they moved towards the Federal Triangle Station. At that time, Train Operator reported ROCC asked if they were moving and stated if they had speed commands because an absolute block was needed to move the train. Train Operator said they stopped the consist and received an absolute block to proceed to Federal Triangle and pick up the RTRA Supervisor. The Train Operator reported at the time of the incident; they felt pressured by ROCC to quickly perform the actions while dealing with customers aboard the train. They stated there were no distractions present at the time of the incident, and they were familiar with SOP 15.

RTRA Supervisor

This employee is a WMATA RTRA Supervisor with five (5) years of experience as an RTRA Supervisor and five (5) years of service as a Bus Supervisor. The RTRA Supervisor's last certification was in July 2019 and has no history of sleep issues to report.

Based on the SAFE interview, the RTRA Supervisor reported that they were conducting daily routine tasks of talking with Station Managers and station inspections before the incident occurred. At approximately 11:42 hrs., ROCC contacted them to respond to a down train at Metro Center Station, Track #1. ROCC contacted the RTRA Supervisor a second time and instructed them to standby at Federal Triangle Station. RTRA Supervisor stated at approximately 11:57 hrs., the Train Operator of Train ID 701 arrived at Federal Triangle, and they boarded the train. Next, the RTRA Supervisor reported they instructed the Train Operator to key down. The RTRA Supervisor then keyed up and confirmed ATP was cut out. ROCC then instructed the RTRA Supervisor they have an absolute block to Smithsonian Station, key down and reverse. The RTRA Supervisor reported the Train Operator continued to operate until they passed the interlocking before reaching Smithsonian Station. The ROCC removed the Train Operator from service, and the RTRA Supervisor assumed control of the consist.

Appendix B – Lessons Learned

Office of Rail Transportation

OFFICE OF RAIL TRANSPORTATION

Looking back, to effectively move forward

Lessons Learned

October 5. 2020
Number: 2020-006

Moving Train with ATP Cut-Out & '0' Speed Commands

INCIDENT SUMMARY

On Sunday, September 20, 2020 train 601 experienced a door problem at Metro Center. The operator reported that the doors would not open. The operator recycled the ATC package and doors still did not open. The operator was instructed to go to the 5th car back and open the doors platform side and offload the train. Once train was offloaded the operated reported all clear and returned to lead car. Once in lead car the operator reported unable to get a brakes off. Operator was instructed to recycle battery c/b. To no avail still unable to get a brakes off. The operator then provided 5-console indicators and brake cylinder pressure when he takes a point of power. Operator reported normal console, but brake cylinder pressure holding. Operator then instructed to break ATP and notify ROCC once it was illuminated on the console. Operator reported "ATP cut-out and train moving". Operator was then instructed to stop the train and advised of the absolute block needed prior to moving the train.

ROOT CAUSE

During the time of the incident, the train operator was instructed to cut-out ATP and notify ROCC when it was illuminated on the console. The operator did cut-out ATP, but failed to notify ROCC once it was illuminated on the console The operators actions in this incident resulted in the operator moving a train with zero '0' speed commands and without an absolute block.

MSRPH RULES VIOLATED

MSRPH

OR 3.79 Operators shall not move trains with zero speed commands except after notifying ROCC and being given permission to move with zero speed commands and an absolute block for the move.

GR 1.79 Employees shall not take any action until they are positive that all radio transmissions or receptions are heard, fully understood and acknowledged. Individual radio transmissions shall be repeated by the receiver so the transmitter can confirm the message was received completely and by the intended receiver.

SOP 15.2.1

This SOP applies to all mainline operations involving rail vehicle movements for which the ATP subsystem is unable to provide safe train separation including mainline Class I Vehicle operations with less than seventy-five percent (75%) braking capacity

What happened…	*What should have happened…*
The Train Operator failed to confirm with ROCC that ATP was illuminated on the console; and failed to get an absolute block before moving the train with ATP c/o	The Train Operator should have verified that ATP was illuminated on the console, confirmed it with ROCC and received and / or requested and absolute block before moving
The Train Operator failed to confirm the radio transmission and fully repeat back the instructions provided by ROCC	The Train Operator should have repeated the transmission back to ROCC to confirm understanding of the transmission
ROCC did not get a full repeat back from the Train Operator when instructed to break ATP and notify once illuminated on the console	The ROCC Controller should have ensured the Train Operator gave 100% full repeat back, for the move

Appendix B – Lessons Learned

RTRA Lessons

Looking back, to effectively move forward

RECOMMENDATIONS

- ✓ Communications/ 100% Proper Repeat backs are key to prevent incidents from occurring.
- ✓ Emphasize that all operational personnel abide by Operating Rule 3.79, 1.79 and SOP 15.2 when operating trains.
- ✓ Ensure that all operational personnel comply with all Operating Rules, especially Cardinal Operating Rules.
- ✓ Always follow Rules/Procedures outlined in WMATA's MSRPH and Interlocking Operator Manual.
- ✓ Interlocking Supervisor at K99 will conduct a Safety Stand Down regarding the two recent incidents with Interlocking Operators as well as all Yard Operators

Print Name_____Date_____

Signature_____Payroll_____