

**FINAL REPORT OF INVESTIGATION A&I E19205**

April 25, 2019

RWP Event

W-0027

*Adopted by the Washington Metrorail Safety Commission at its meeting on March 12, 2020.*

Washington Metrorail Safety Commission  
777 North Capitol Street, NE, Suite 402  
Washington, DC 20002



**FINAL REPORT OF INVESTIGATION A&I E19205**

**SMS 20190425#79484**

<b>Date of Event:</b>	April 25, 2019
<b>Type of Event:</b>	Occurrences involving individuals working in the transit agency-controlled right-of-way
<b>Incident Time:</b>	10:11 hrs.
<b>Location:</b>	Outside of Pentagon City Station at Chain Marker (CM) C1 297+00
<b>Time and How received by SAFE:</b>	10:15 hrs., SAFE-On-Call Phone
<b>WMSC Notification Time:</b>	11:07 hrs.
<b>Responding Safety Officers:</b>	WMATA SAFE: No WMSC: No Other: N/A
<b>Rail Vehicle:</b>	Train ID 308, 7K 8-Car consist Lead Car 7380
<b>Injuries:</b>	None
<b>Damage:</b>	None
<b>Emergency Responders:</b>	None

**Executive Summary**

On Thursday, April 25, 2019 at approximately 10:12 hrs., Rail Operations Control Center (ROCC) received a report of a track inspection being conducted between Pentagon City Station and Crystal City Station on Track 1 with no Advanced Mobile Flagger (AMF) in place prior to the incident train arriving at the 8-car marker. Train ID 308, 7K 8-Car consist Lead Car 7380 encountered personnel on the roadway at approximately 10:11 hrs., without receiving prior notification from an AMF at Crystal City Station and proceeded inbound from the Crystal City Station to Pentagon City Station, Track 1.

Based on review of the Audio Recording System (ARS) the following information was revealed:

- 09:59:30 hrs., The RWIC contacted ROCC and informed the ROCC's Radio Controller on OPS 3 that they along with their Mobile Work Crew consisting of track inspectors were requesting to enter the roadway to perform a track inspection between Pentagon City Station and Crystal City Station, Track 1. The RWIC further informed ROCC that the form of roadway protection was AMF protection and that the AMF supporting the walk was located at the 8-car marker at Crystal City

Station, Track 1. Finally, the RWIC stated that a safety briefing was performed and hotspots for the respective area were reviewed.

- 10:00:05 hrs., ROCC Acknowledged the request from the RWIC to perform a track inspection from Pentagon City Station and Crystal City Station and subsequently granted permission for the Track and Structures (TRST) Mobile Work Crew to enter the roadway at Pentagon City Station, Track 1 to start inspection walk. Additionally, the ROCC Radio Controller reminded the Mobile Work Crew to be vigilant of train movement in all directions and at all times. Finally, the ROCC Radio Controller informed the RWIC that once the train on Track 1 at Pentagon City Station was clear of the station, they and their Mobile Work Crew would then have permission to start their walk. A start time of 10:00 hrs. was granted by ROCC. **NOTE: There was no evidence or data to support that further radio or telephone communication existed between the RWIC and the AMF where the RWIC notified the AMF to begin AMF Operations at Crystal City Station, Track 1 in accordance with Metrorail Safety Rule and Procedures Handbook (MSRPH) Section 5 (5.13.9 (a)) rule. Please see below:**
- 10:00:55 hrs., ROCC made a blanket announcement on the OPS 3 radio Channel informing trains that track walkers were walking on Track 1 between Pentagon City Station and Crystal City Station.
- 10:12:05 hrs., RWIC informed ROCC that trains must blow their horns after leaving the platform Crystal City Station. Personnel interjects over the radio and states "tell your AMF to do what they're supposed to do.... No one said anything to me".
- 10:15:42 hrs., RWIC contacts AMF located at Crystal City Station who reports that they were set up and in place at the 8-car marker.
- 10:22:46 hrs., ROCC Radio Controller instructs RWIC and Mobile Work Crew to clear the Roadway.

Based on review of the Close Circuit Television (CCTV) recording playback at Crystal City Station platform, it revealed the following information:

- 10:09:12 hrs., TRST Mobile Work Crew entered the roadway from Pentagon City Station on Track 1
- 10:10:47 hrs., Train ID 308 entered Crystal City Station platform and the AMF is seen on cell phone simultaneously. The AMF did not walk up to the Operator's cab to relay that personnel were on the roadway nor was safety equipment set up at this time.

Considering all the salient facts, SAFE has concluded that this event was a result of human error and lack of procedural adherence from the RWIC. Based on CCTV footage, the TRST Mobile Work Crew entered the roadway while the AMF was not setup properly in accordance to RWP rule Metrorail Safety Rule and Procedures Handbook (MSRPH) Section 5 (5.13.9 (a)) which states in part: Once ROCC gives and before the Mobile Work Crew enters the roadway, the RWIC will notify the AMF to begin AMF Operations (a) The

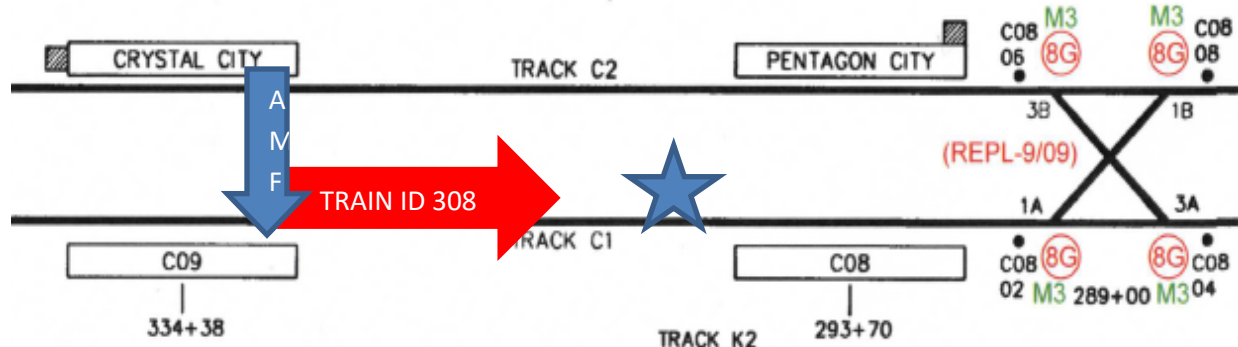
AMF will place a flashing lantern/e-flare into its base and position it at the end of the station platform (eight (8) car marker end gate area).

The RWIC began walking without notifying the AMF to begin AMF operations. TRST Mobile Work Crew and the Train Operator (T/O) were removed from service to be interviewed by SAFE. No injuries were reported as a result of this incident.

### Incident Site

The incident area was located at Chain Marker (CM) C1-297+00.

### Field Sketch/Schematics



### Investigation

On Thursday, April 25, 2019 at approximately 10:12 hrs., ROCC received a report of an RWP violation that transpired between Pentagon City Station and Crystal City Station, Track 1. A TRST Mobile Work Crew was scheduled to walk outbound between Pentagon City Station and Crystal City Station with an AMF in place at Crystal City Station, Track 1. However, the TRST Mobile Work Crew began walking without the RWIC's instruction to the AMF to start AMF Operations. **Note:** The AMF Operation (MSRPH Rule 5.13.6.9) consist of the AMF's placement of safety equipment (flashing amber lantern/e-flare into

its base and positioning it at the end of the station platform (eight (8) car marker or end gate area) in addition to having an Orange Warning Flag in their (AMF's) hand at all times and be prepared to signal rail vehicle Operators to stop). Additionally, the AMF is responsible for providing Rail Vehicle Operators with "face-to face" instructions by reading the AMF script to Rail Vehicle Operators (MSRPH Rule 5.13.6.9.(d))

Investigation revealed the AMF called the RWIC via cell phone while the AMF was standing near position at the 8-car marker at Crystal City Station, however, based on interview with AMF, he stated that he was waiting for radio confirmation from ROCC that the RWIC acknowledged that they were in place before they set up their lantern and flag.

While the AMF was waiting for confirmation, Train ID 308 entered Crystal City Station and based on station CCTV video playback, there's no evidence that the T/O was briefed by the AMF and informed that the Mobile Work Crew was beginning their walk. Subsequently, as Train ID 308 proceeded from the Crystal City Station, it encountered the Mobile Work Crew on the roadway approximately 200 feet on approach to the Pentagon City Station.

Review of the Audio Recording System (ARS) does not support that the RWIC contacted the AMF via radio prior to the TRST Mobile Work Crew entering the roadway. Additionally, CCTV illustrates the AMF calling via cell phone and listening to their radio away from the 8-car marker while Train ID 308 entered Crystal City Station before proper safety equipment was set up.

## **RWIC**

Per RWIC Interview Statement: The RWIC who is a Track Walker D Mechanic had a total of 6 individuals in their Mobile Work Crew. The RWIC stated that they completed a safety briefing at Alexandria Division with the Mobile Work Crew and that their assignment was to take measurements of the mainline curves from Pentagon City Station to Crystal City Station, Track 1.

The RWIC stated that at approximately 10:00 hrs., permission was granted by ROCC for the TRST Mobile Work Crew to enter the roadway at Pentagon City Station, Track 1. The RWIC advised the AMF to call him via phone to let him know he was in place so they can start their track inspection. The RWIC stated that at approximately 10:00 hrs., they received confirmation via phone from their AMF that they were in place and then the Mobile Work Crew started their walk. The RWIC stated that their Watchman/Lookout, who was in front of the rest of the TRST Mobile Work Crew, started yelling "Hot Rail" due to a rail vehicle speeding while the Mobile Work Crew was on the track.

Due to the proper sighting distance being achieved, the Mobile Work Crew was able to reach a place of safety before the train passed them. The RWIC immediately contacted the ROCC via radio and asked the controller to direct the T/O's to sound the horn and slow down when leaving Crystal City Station.

## **AMF**

Per AMF Interview Statement: The AMF signed the RWIC's safety briefing form at Pentagon City Station. The RWIC then told the AMF to go to Crystal City Station and contact the RWIC via phone when the AMF was in place. Once the AMF arrived to Crystal City Station, they contacted the RWIC to notify them that they were on location at Crystal City Station. The AMF then stated that they waited to hear that the RWIC received permission from the ROCC to enter the roadway and to hear that the ROCC gave confirmation via radio that the AMF is in position, so they can set up their equipment. Additionally, the AMF advised the RWIC never notified him to begin AMF operations. Note: The AMF, a contract employee, has been an AMF for approximately six (6) months. Per interview with SAFE, the AMF stated that this was their first time working with this RWIC and Mobile Work Crew and they normally worked out of the Branch Avenue Division.

## **T/O**

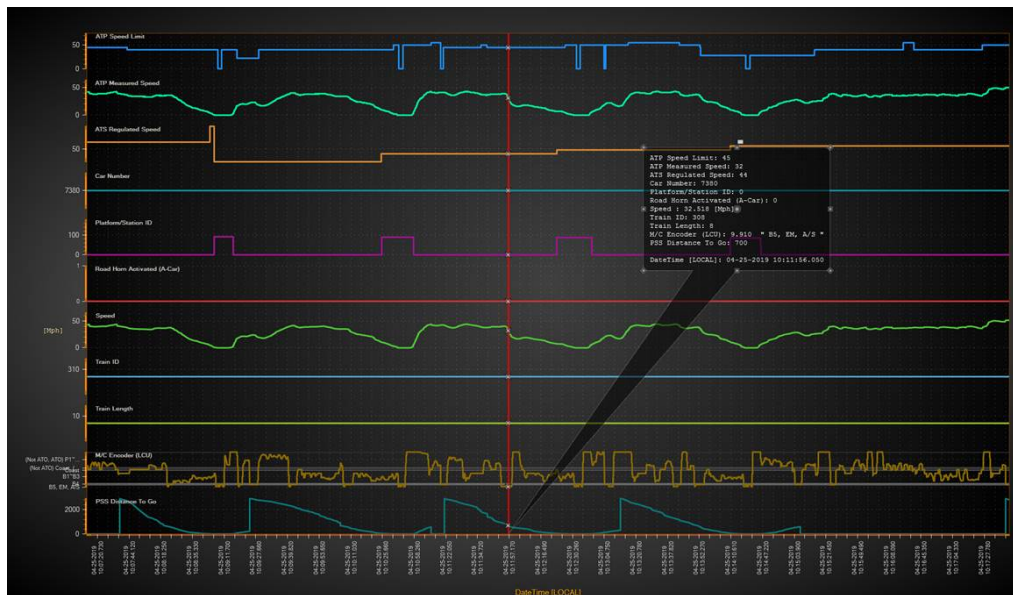
Per T/O Interview Statement, the AMF did not have equipment set up at the end of the Crystal City Station platform (eight (8) car marker or end gate area). Additionally, once the train was stopped, the AMF never came to the cab window to provide face-to-face instructions that there was a walking inspection work group ahead. Once the T/O observed the Mobile Work Crew on the roadway, the T/O immediately slowed the train down. The RWIC immediately responded over the radio and started to tell the T/O's to beep their horn and slow down.

## **ROCC Timeline**

10:11 hrs., TRST reported to ROCC that Train ID 308 came through the work location, Pentagon City Station from Crystal City Station, Track 1 at a speed greater than 15mph. T/O Train ID 308 responded that there was no AMF visible, so they continued normal speed through that station. ROCC Assistant Superintendent, TSSM, SAFE and all concerned personnel were notified. ROCC instructed TRST Mobile Work Crew to clear the roadway and contact ROCC Assistant Superintendent. Additionally, OCC informed RTRA Supervisor to take over operation of Train ID 308 and to have the T/O report to SAFE to be interviewed.

NOTE: Upon further investigation the AMF did not walk up to the Operators cab and brief the T/O that a TRST Mobile Work Crew was on the roadway. All parties involved were instructed to submit an incident report and report to SAFE to be interviewed.

## Vehicle Program Services (CENV)



CENV analyzed the data from Train ID 308, Lead Car 7380. The data indicated the train speed was 39 to 40 mph through the work zone area with Automatic Train Protection (ATP) speed limit set at 45 mph. The front facing playback video from lead car 7380 indicated an approximate separation between the Watchman/Lookout and workers Mobile Work Crew of 100 ft. There wasn't a road horn activation by the operator based on event log data from the rail vehicle.

## Human Factors

The RWIC's 30-day work history was reviewed and it was determined that the RWIC's work history was within the WMATA guidelines listed on the Fatigue Risk Management Policy 10.6 and Hours of Service Limitations for Prevention of Fatigue Policy 10.7.

## Weather

At the time of the incident, the temperature was 52 °F, and clear. SAFE has concluded that weather was not a contributing factor in this incident (Weather source: National Oceanic Atmospheric Administration (NOAA) – Location: Arlington, VA.)

## **Findings**

- Based on ARS there was no data to support confirmation from the RWIC that the AMF was in position to protect walking inspectors or data to support that the RWIC requested permission from the ROCC to enter the roadway.

## **Conclusion**

Based on the salient facts identified as part of this investigation, Metro Safety Rule and Procedures Handbook (MSRPH), ARS playback, SPOTS Report data, ROCC Timeline, and CCTV recording playback, SAFE has reached the following conclusion:

1. This event was a result of human error and lack of procedural adherence from the RWIC.
2. The RWIC failed to receive positive radio communication from the AMF. The AMF did not receive specific instructions to begin AMF operations.

There was no data to support an improper operation by the T/O of Train ID 308 or the AMF that may have contributed to this incident. Considering all the facts gathered from this investigation, SAFE has no further information to reveal regarding E19205 and recommends its closure.

## **Proposed Corrective actions**

1. TRST shall take the appropriate action to include, but not limited to, re-training and any other action deemed necessary to support prevention of repeated recurrence:
  - a. **RWP retraining of the RWIC will commence on 5/31/2019.**



## Photos



Photo 1 - 10:10:47 hrs., - Train ID 308 enters Crystal City Station platform and AMF is seen on cell phone simultaneously. AMF did not walk up to the Operator's cab to inform the T/O of personnel on the roadway.



Photo 2 - 10:09:12 hrs., - Track Inspectors enter the roadway via end gate heading in the direction of Crystal City Station, Track 1



04/25/2019 10:11:54.157

Photo 3 – Train ID 308 forward facing camera captured the watchman/lookout



04/25/2019 10:11:56.663

Photo 4 – Train ID 308 forward facing camera captured TRST Mobile Work Crew 2 seconds later.

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