



WMSC Commissioner Brief: W-0265 – Evacuation for Life Safety Reasons – Foggy Bottom-GWU Station – October 5, 2023

Prepared for Washington Metrorail Safety Commission meeting on April 9, 2024

Safety event summary:

Foggy Bottom-GWU Station was evacuated for life safety reasons on October 5, 2023, after the Station Manager identified and reported smoke in the station at 10:31 p.m.

Metrorail requested a D.C. Fire and EMS response at 10:36 p.m., but did not initially evacuate the station and continued to have trains operate through the area. The Station Manager was directed by a Rail Operations Information Center Information Controller to investigate whether there was a fire.

The Radio Rail Traffic Controller requested the Train Operator of Train 905 at Foggy Bottom-GWU Station inspect for anything unusual between Foggy Bottom-GWU Station and Farragut West Station. The train made that movement in passenger service. Metrorail rules do not permit inspections with passengers on board.

The Radio Rail Traffic Controller instructed the Train Operator of Train 616 to offload all passengers at Foggy Bottom-GWU Station and conduct an inspection to Rosslyn Station. The Fan Desk activated ventilation fans at Foggy Bottom-GWU Station.

At 10:49 p.m., 18 minutes after the Station Manager reported smoke, passengers began to be evacuated from the station at D.C. Fire and EMS request. The Station Manager, Metro Transit Police Department, and personnel in the Rail Operations Control Center did not effectively communicate the conditions or the directions from incident command to ensure effective, shared situational awareness and coordinated action. Even after the station was evacuated based on the observations of heavy smoke by personnel on scene and the direction of the fire department, personnel in the Rail Operations Control Center stated that trains would continue to service the station.

At 10:55 p.m., the Radio Rail Traffic Controller instructed other train operators approaching Foggy Bottom-GWU to turn off their train's environmental system.

At approximately 11:00 p.m., D.C. Fire and EMS identified debris outside the station near a vent shaft was smoking, leading to that smoke entering the station. D.C. Fire and EMS then cleared the station for service.

The station returned to normal service by approximately 11:22 p.m.

Probable Cause:

The probable cause of this event was a debris fire outside the station.

Corrective Actions:

Examples of other related open CAPs

- C-0162 addressing the finding that Metrorail does not consistently follow the incident command system (ICS) structure and has procedures that do not comply with National Incident Management System (NIMS)/ICS requirements such as the use of plain language. Further, Metrorail's training requirements are insufficient to



prepare personnel to respond to and/or manage emergencies within the NIMS/ICS framework. These deficiencies have contributed to ineffective and improper emergency response and emergency management. Metrorail recently implemented changes to its emergency management procedures. The final completion date for this CAP is scheduled for January 2025.

WMSC staff observations:

Metrorail did not effectively establish incident command and communicate according to its incident management requirements.



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

FINAL REPORT OF INVESTIGATION A&I E23692

Date of Event:	October 5, 2023
Type of Event:	A-4 Evacuation for Life Safety Reasons
Incident Time:	22:31 hours
Location:	Foggy Bottom Station
Time and How received by SAFE:	22:33 hours, Mission Assurance Coordinator (MAC)
WMSC Notification Time:	23:59 hours
Responding Safety Officers:	None
Rail Vehicle:	None
Injuries:	None
Damage:	None
Emergency Responders:	Metro Transit Police Department (MTPD), District of Columbia Fire and Emergency Medical Services Department (DCFEMS)
SMS I/A Incident Number:	20231006#111940MX

Foggy Bottom Station – Evacuation for Life Safety Reasons

October 5, 2023

Table of Contents

Abbreviations and Acronyms-----	3
Executive Summary-----	4
Incident Site-----	5
Field Sketch/Schematics-----	5
Purpose and Scope-----	5
Investigative Methods-----	5
Investigation-----	6
Chronological Event Timeline-----	8
Advanced Information Management System (AIMS)-----	9
Weather-----	10
Related Rules and Procedures-----	10
Human Factors-----	10
Evidence of Fatigue-----	10
Fatigue Risk-----	10
Post-Incident Toxicology Testing-----	10
Findings-----	10
Immediate Mitigation to Prevent Recurrence-----	10
Probable Cause Statement-----	11
Recommended Corrective Actions-----	11
Appendices-----	12
Appendix A – ROCC Incident Report (redacted)-----	12
Appendix B – Maintenance Operations Control (MOC) Emergency Tunnel Fan Operation Form -----	14

Abbreviations and Acronyms

AIMS	Advanced Information Management System
ARS	Audio Recording System
BOCC	Bus Operations Control Center
CCTV	Closed-Circuit Television
DCFEMS	District of Columbia Fire and Emergency Medical Services
EV	Environmental Control
MTPD	Metro Transit Police Department
MOC	Maintenance Operation Center
MOR	Metrorail Operating Rulebook
NOAA	National Oceanic and Atmospheric Administration
OM	Operations Manager
RTC	Rail Traffic Controller
RTRA	Office of Rail Transportation
ROIC	Rail Operations Information Center
ROCC	Rail Operations Control Center
SAFE	Department of Safety
SMS	Safety Measurement System
WMATA	Washington Metropolitan Area Transit Authority
WMSC	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 Thursday, October 5, 2023, at 22:31 hours, the Station Manager at Foggy Bottom Station reported to the Rail Operations Information Control (ROIC) Specialist that smoke was being emitted throughout the station. The Station Manager was instructed to investigate further and determine whether a fire was present in the station.

At 22:33 hours, the District of Columbia Fire and Emergency Medical Services (DCFEMS), Metro Transit Police Department (MTPD), Operations Manager (OM), and Bus Operation Control Center (BOCC) were notified of the smoke event at Foggy Bottom Station.

The Rail Traffic Controller (RTC) requested Train ID 905 on track 1 to conduct a visual inspection for anything unusual from Foggy Bottom Station to Farragut West Station. Train ID 616 was offloaded at Foggy Bottom track 2 to conduct a visual inspection from Foggy Bottom to Rosslyn Station. The Foggy Bottom Station ventilation fans were activated to remove the smoke from the station.

According to the Closed-Circuit Television (CCTV) and Audio Recording System (ARS), at 22:43 hours, DCFEMS arrived on the scene and inspected the station for the source of the smoke.

At 22:49 hours, MTPD requested the evacuation of Foggy Bottom Station.

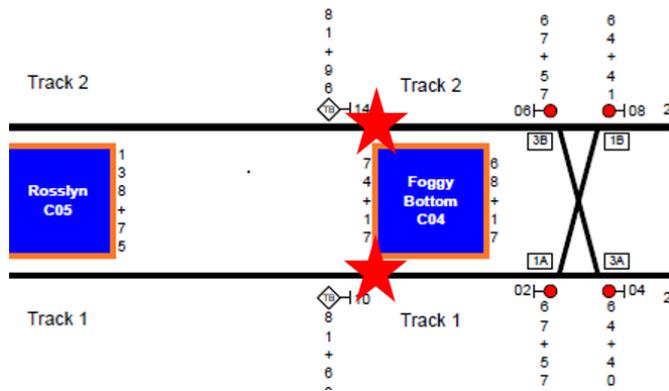
At 23:00 hours, DCFEMS identified the source of the smoke as debris outside of Foggy Bottom Station near a vent shaft. Customers were then permitted to return to Foggy Bottom Station, and DCFEMS cleared the station for rail service.

The probable cause of this event was smoking debris outside of Foggy Bottom Station near a vent shaft. Smoke entered the station through the vent shaft, and the station was evacuated until the source was identified.

Incident Site

Foggy Bottom Station (C05), underground center platform station.

Field Sketch/Schematics



The above depiction is not to scale.

Purpose and Scope

This accident investigation and candid self-evaluation aims 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 through document review.
- 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 – Collection of relevant work history information and process documentation contained in WMATA record systems. These records include:
 - Metrorail Operating Rulebook (MOR)
 - 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 including Radio/Phone OPS 2 OPS 5 and MTPD-1X Radio.
 - Advanced Information Management System (AIMS) Event Log
 - Closed-Circuit Television (CCTV)

Investigation

According to the ARS, On Thursday, October 5, 2023, at 22:31 hours, the Station Manager at Foggy Bottom Station reported to the ROIC Specialist via phone that smoke was emitting throughout the station. The Station Manager was dispatched to investigate if any fire was present in the station and to locate the source of the smoke.



Image 1 - Station Manager observing smoke near the top of a station pylon at 23:33 hours.

A review of the ARS revealed that at 23:33:04 hours, the DCFEMS, MTPD, OM, and BOCC were notified of the smoke event at Foggy Bottom Station.

At 22:35 hours, the RTC requested Train ID 905 on track 1 to conduct a visual inspection for anything unusual from Foggy Bottom Station to Farragut West Station. Train ID 616 was offloaded at Foggy Bottom track 2 to conduct a visual inspection from Foggy Bottom to Rosslyn Station. At 22:36 hours, the OM requested the activation of the station ventilation fans to remove the smoke from the station.

According to the CCTV and ARS, at 22:43 hours, DCFEMS arrived on the scene and inspected the station for the source of the smoke.

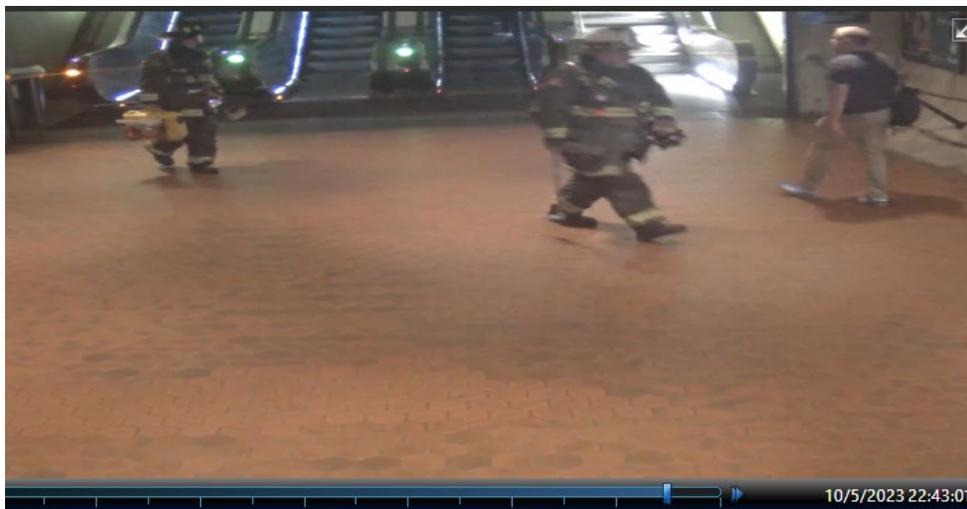


Image 2 - DCFEMS entering Foggy Bottom Station at 22:43:01 hours.

According to CCTV, at 22:45:44, MTPD arrived at Foggy Bottom Station. A review of the ARS revealed that at 22:52:08 hours, MTPD began evacuating Foggy Bottom Station due to heavy smoke and at the request of DCFEMS.



Image 3 - MTPD arriving at Foggy Bottom Station at 22:45:44 hours.

At 22:55 hours, trains approaching Foggy Bottom were instructed by the Radio RTC to turn off their Environmental System (EV).

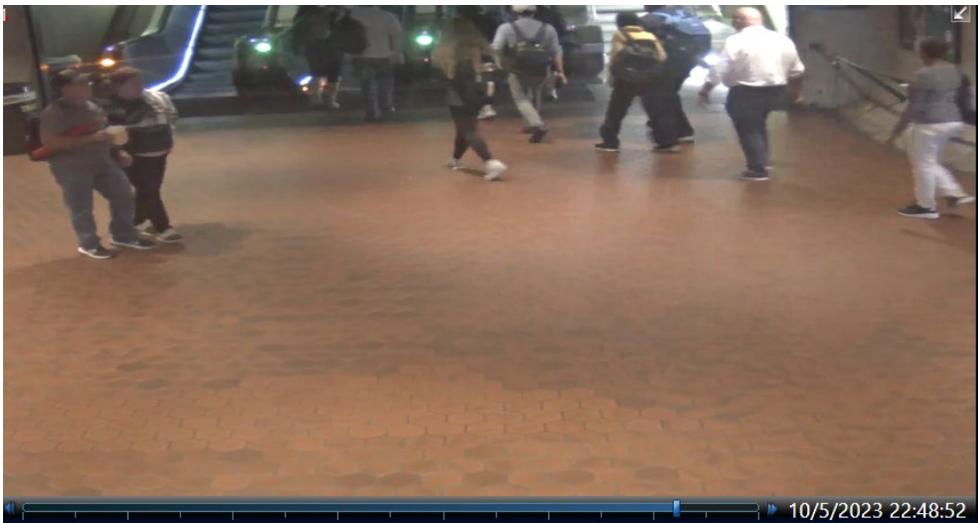


Image 4 - Customers being evacuated from Foggy Bottom Station at 22:48:52 hours.

At 23:00 hours, DCFEMS located smoking debris outside Foggy Bottom Station near a vent shaft. At 23:04 hours, customers could return to Foggy Bottom Station, and DCFEMS cleared the station for rail service.

At 23:22 hours, the Radio RTC announced to all train operators that Foggy Bottom Station could be serviced normally.

Chronological Event Timeline

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

Time	Description
22:31:28 hours	<u>Station Manager</u> : Reported smoke in Foggy Bottom Station emitting from the tunnel. <u>ROIC Specialist</u> : Dispatched the Station Manager to investigate the smoke to confirm if there were any signs of a fire. [RCOM1 Phone]
22:32:52 hours	<u>Station Manager</u> : Confirmed a positive radio check with the ROIC Specialist. [Ops 5 Radio]
22:33:04 hours	<u>ROIC Specialist</u> : Notified OM of smoke in the station at Foggy Bottom. [RCOM1 Phone]
22:35:04 hours	<u>ROIC Specialist</u> : Notified MTPD of smoke in the station at Foggy Bottom. [RCOM1 Phone]
22:33:58 hours	<u>Station Manager</u> : Reported smoke emitting from tracks 1 and 2 tunnels. [Ops 5 Radio]
22:35:07 hours	<u>Radio RTC</u> : Requested Train ID 905 to conduct a visual inspection for anything unusual from Foggy Bottom to Farragut West Station. [Ops 2 Radio]
22:36:04 hours	<u>ROIC Specialist</u> : Notified DCFEMS of smoke in the station at Foggy Bottom. [RCOM1 Phone]
22:36:33 hours	<u>RTC</u> : Requested Train ID 616 to offload their customers and conduct a visual inspection from Foggy Bottom to Rosslyn Station. [Ops 2 Radio]
22:36:45 hours	<u>AOM</u> : Requested the activation of the fans at Foggy Bottom Station. [Rail 2 Phone]
22:38:54 hours	<u>RTC</u> : Reported fans will be activated at Foggy Bottom, according to the playbook. [Rail 2 Phone]
22:40:04 hours	<u>ROIC Specialist</u> : Notified BOCC of smoke in the station at Foggy Bottom. [RCOM1 Phone]
22:40:31 hours	<u>Train ID 905</u> : Reported normal activity at Foggy Bottom Station. [Ops 2 Radio]
22:43:32 hours	<u>ROIC Specialist</u> : Confirmed that DCFEMS was on the scene with the Station Manager. [Ops 5 Radio]
22:43:42 hours	<u>RTC</u> : Dispatched RTRA Supervisor from Court House Station to Foggy Bottom Station. [Ops 2 Radio]
22:43:56 hours	<u>RTC</u> : Notified the AOM that an RTRA Supervisor was dispatched from Court House Station to Foggy Bottom Station. [Rail 2 Phone]
22:44:38 hours	<u>Train ID 616</u> : Confirmed they were offloaded and clear of customers at Foggy Bottom Station. [Ops 2 Radio]
22:45:33 hours	<u>Station Manager</u> : Reported DCFEMS requested the train on track 2 to depart the station. [Ops 5 Radio]
22:46:32 hours	<u>Train ID 616</u> : Reported they were being held on the platform by DCFEMS and noticed smoke coming from the pylon on the platform. [Ops 2 Radio]
22:46:56 hours	<u>MAC</u> : Notified SDOC of the report of smoke at Foggy Bottom Station. [MAC Phone]
22:48:11 hours	<u>Train ID 616</u> : Reported that DCFEMS released them from the platform and was placed back in revenue service. [Ops 2 Radio]
22:48:52 hours	<i>Passengers being evacuated from Foggy Bottom Station, per DCFEMS request. [CCTV]</i>

Time	Description
22:49:54 hours	<u>Station Manager</u> : Informed the ROIC Specialist that MTPD wanted to evacuate Foggy Bottom Station. <u>ROIC Specialist</u> : Instructed the Station Manager not to evacuate the station. [Ops 5 Radio]
22:51:57 hours	<u>MAC</u> : Requested clarification why and who was requesting to evacuate Foggy Bottom Station. <u>MTPD</u> : Reported that smoke was emitting from the pylon on the platform and that DCFEMS was still investigating. [MTPD-1x Radio]
22:52:00 hours	<u>MAC</u> : Asked who made the request for Foggy Bottom Station to be evacuated? <u>MTPD</u> : Reported they were not requesting, but actively executing an evacuation due to heavy smoke in the station. [MTPD-1x Radio]
22:53:26 hours	<u>Train ID 616</u> : Reported a good inspection from Foggy Bottom to Rosslyn Station. [Ops 2 Radio]
22:53:32 hours	<u>MTPD</u> : Advised that DCFEMS request that Foggy Bottom Station be evacuated. <u>MAC</u> : Acknowledged [MTPD-1x Radio]
22:55:18 hours	<u>RTC</u> : Instructed the trains approaching Foggy Bottom Station on tracks 1 & 2 to turn off their EV. [Ops 2 Radio]
22:55:22 hours	<u>Station Manager</u> : Reported heavy smoke emitting from the pylon on the platform. [Ops 5 Radio]
22:55:50 hours	<u>MAC</u> : Notified MTPD that the DCFEMS Chief advised them that rail service can be continued toward Rosslyn Station. <u>MTPD</u> : Acknowledged. [MTPD-1x Radio]
22:56:48 hours	<u>ROIC Specialist</u> : Notified the Station Manager that trains will service Foggy Bottom Station because trains reported a good inspection. [Ops 5 Radio]
22:58:24 hours	<u>MAC</u> : Notified MTPD Incident Command (IC) that the source of the smoke occurred outside of Foggy Bottom Station and was vented into the station. [MTPD-1X Radio]
22:59:49 hours	<u>MAC</u> : Notified SDOC that the source of the smoke occurred outside of Foggy Bottom Station and was vented into the station. Also confirmed Foggy Bottom Station was evacuated by DCFEMS for Life Safety Reasons [MAC Phone]
23:00:28 hours	<u>Station Manager</u> : Reported that DCFEMS located the source of the smoke outside the station entering a Foggy Bottom Station vent shaft. [Ops 5 Radio]
23:04:37 hours	<u>Station Manager</u> : Reported DCFEMS departed Foggy Bottom Station. [Ops 5 Radio]
23:22:34 hours	<u>RTC</u> : A blanket announcement was made that normal service resumed at Foggy Bottom Station. [Ops 2 Radio]

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

Advanced Information Management System (AIMS)

22:37:20.822D 10/05/23	Foggy Bottom	UPE IB Fan	Exhaust	COMMANDED	Exhaust	BY [REDACTED] AT ctwkspower9pp
22:37:20.822D 10/05/23	Foggy Bottom	UPE IB Fan	On	COMMANDED	Emergency On	BY [REDACTED] AT ctwkspower9pp
22:37:20.822D 10/05/23	Foggy Bottom	UPE OB Fan	Exhaust	COMMANDED	Exhaust	BY [REDACTED] AT ctwkspower9pp
22:37:20.822D 10/05/23	Foggy Bottom	UPE OB Fan	On	COMMANDED	Emergency On	BY [REDACTED] AT ctwkspower9pp
22:37:46.674D 10/05/23	Foggy Bottom	UPE OB Fan	Status	COMMANDED	CHANGE = Emergency On	
22:37:49.674D 10/05/23	Foggy Bottom	UPE IB Fan	Status	COMMANDED	CHANGE = Emergency On	

Figure 1 - AIMS Event Log showing Fan Activation at Foggy Bottom Station

Weather

On October 5, 2023, at the time of the incident, NOAA recorded the temperature as 74°F, with clear skies. Weather did not contribute to this incident (Weather source: NOAA) – Location: Washington, D.C.

Related Rules and Procedures

SOP 678 - Procedure for Managing Fire and Smoke on the Metrorail System

- 6.2.1 ROCC personnel receiving the call shall repeat back, word for word, all information provided in step
- 6.1.2 and instruct reporting personnel to consider performing appropriate emergency actions to include but not limited to:
 - 6.2.1.1 Directing the employee reporting the emergency to initiate the facility fire alarm system if occupant notification is not already activated.
- 6.2.4.2 Instruct Operators to turn off the train Environmental Control (EV) System.
- 6.2.4.4 Activate emergency tunnel fan ventilation as required (in accordance with ROCC Procedure 110-ROCC-ALL-02-XX).

6.4.2.2 If the conditions allow for safe train movement, the RTC shall instruct the Operator to proceed at a reduced speed (as directed by the RTC), maintaining awareness for fire or smoke.

Human Factors

Evidence of Fatigue

The biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied for this event. Personnel were not identified as contributing to the event.

Fatigue Risk

The biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied for this event. Personnel were not identified as contributing to the event.

Post-Incident Toxicology Testing

Post-Incident Toxicology Testing was not conducted for this event. Personnel were not identified as contributing to the event.

Findings

- The source of the smoke was located outside of Foggy Bottom Station, and it entered the station through a vent shaft.
- No fire was discovered within Foggy Bottom Station.
- Trains continued to service Foggy Bottom Station during the incident.
- Customers were evacuated from Foggy Bottom Station for 12 minutes.

Immediate Mitigation to Prevent Recurrence

- The Station Manager was dispatched to locate the source of the smoke.
- Station ventilation fans were activated to clear the station of smoke.
- Passengers were evacuated from the station.

- Approaching trains cut out their Environmental Control (EV) system.

Probable Cause Statement

The probable cause of this event was smoking debris outside of Foggy Bottom Station near a vent shaft. There were no significant findings of deficiency in the infrastructure related to this event.

Recommended Corrective Actions

There was no recommended action for this event due the vent shaft being located on the campus George Washington University. The clearing of the vent shaft is maintained by the GWU personnel.

Appendices

Appendix A – ROCC Incident Report (redacted)

View Approved Incident Report

INCIDENT ID: 2023278SILVER3

DATE 2023-10-05	TIME 2236	LINE Silver	ITEM 3
LOCATION (STATION/YARD) Foggy Bottom-GWU (C04)		LOCATION/CHAIN MARKER (If Applicable)	REPORTED BY Station Manager [REDACTED]
TRAIN ID 616	DIRECTION O/B	TRACK NUMBER 2	DEPTS NOTIFIED Everbridge Alert/Messaging
CAR NUMBERS (XXXX-XXXX) Lead Car			
-			
Caused Issue <input type="checkbox"/>			
Caused Issue <input type="checkbox"/>			
Caused Issue <input type="checkbox"/>			
Caused Issue <input type="checkbox"/>			
TRBL CODE SMKS-SMOKE IN STATION		RESP CODE OTH	

TYPE INCIDENT
Smoke reported in the station at Foggy Bottom (C04)

ACTION PLAN
Trains offloaded at Foggy Bottom (C04) and Rosslyn (C05). Trains were instructed to do a visual inspection between the two stations and report if anything unusual was found.

DELAYS IN MINUTES			
LINE	INCIDENT	TRAIN	TOTAL DURATION
24	24	12	0

TRIPS MODIFIED					
PARTIAL	GAP TRAIN	LATE DISPATCHES	REROUTED	NOT DISPATCHED	OFFLOADS
2	0	0	0	0	2

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

Figure 2 - ROCC Incident Report (redacted) page 1 of 2.

View Approved Incident Report

INCIDENT CHRONOLOGY		
TIME	DESCRIPTION	
2236	Foggy Bottom Station Manager reported smoke coming from the tunnel at Foggy Bottom station. ROCC instructed train 616 operator, [REDACTED] to offload their train at Foggy Bottom (C04) and verify clear of customers. After offloading train 616 was instructed to perform a visual inspection of track two in the direction of Rosslyn (C05). ROCC instructed train 605 to offload the train at Rosslyn (C05) in order to perform a visual inspection of track one in the direction of Foggy Bottom C04. Unit 33, RTRA Supervisor [REDACTED] was contacted at Court House (K01) to board train 906 to make his way to Foggy Bottom to assist. Assistant Operations Manager, ROIC, MTPD and all concerned personnel were notified.	
2248	Train 616 informed ROCC that the train was verified all clear and ready to perform a visual track inspection of track two in the direction of Rosslyn (C05). Train 605 operator informed ROCC that their train was verified all clear of customers, and ready to perform a visual track inspection of track one in the direction of Foggy Bottom. Train 410 was instructed to hold at Arlington Cemetery, and train 906 held at Courthouse until track inspections were performed.	
2304	Both trains 616 and 605 reported good visual track inspections of tracks one and two. ROCC instructed train 605 to continue in revenue service from Foggy Bottom to Largo on track one and train 616 to continue in revenue service from Rosslyn in the direction on Ashburn on track two. All trains were instructed to turn off their HVAC until clear between Foggy Bottom (C04) and Rosslyn (C05) on both tracks.	
2300	Train 617 serviced Foggy Bottom on track two, picking up the incident customers and ending the longest delay. Normal service resumed.	
MAXIMO TICKET# 8701409		
REPORT PREPARED BY	NAME	CLICK TO SIGN
RADIO CONTROLLER 1	[REDACTED]	✓
BUTTON CONTROLLER 1	[REDACTED]	✓
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 <input type="checkbox"/> #2/DGM & BELOW <input type="checkbox"/>		
ADDITIONAL NOTIFICATIONS MADE BY PHONE		
APPROVED BY	NAME	CLICK TO SIGN
REPORT APPROVED BY SUPT. OR ASST SUPT.	[REDACTED]	✓

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Figure 3 - ROCC Incident Report (redacted) page 2 of 2.

Appendix B – Maintenance Operations Control (MOC) Emergency Tunnel Fan Operation Form



110-ROCC-ALL-04-01
Approved: 3/3/2022

Call Time:

22:37

Incident Description: Arcing Insulator / Trash Fire / etc.

Report of Smoke

Nearest Station: Metro Center AOT

Foggy Bottom - GWU

Chairmarker: xxx + xx

C74+17 to C68+17 platform

Track #:

Train ID:

Proposed Evacuation Route: (towards which station)

Take Stairs towards surface

Playbook/Page Reference:

C35

Incident Zone(s):

Name:

Date:



10-5-2023

*Maintenance Lead shall scan and save this form in the "R" Shared Network Drive per the ROCC Record Retention Process, 700-ROCC-ALL-04-XX. 51.931

Figure 4 - Maintenance Operations Center (MOC) Emergency Tunnel Fan Operation form depicting at 22:37 hours C35 zones fans were activated.