

WMSC Commissioner Brief: W-0154 – Evacuation for Life-Safety Reasons – Dunn Loring Station – November 25, 2021

Prepared for Washington Metrorail Safety Commission meeting on March 8, 2022

Safety event summary:

The Train Operator of Train ID 901 reported heavy smoke emitting from the train's lead car at Dunn Loring Station on Track 2 to the Rail Operations Control Center (ROCC) Rail Traffic Controller (RTC), resulting in customer evacuation.

At approximately 6:55 p.m., the Train Operator reported smoke emitting from the lead car of the consist and was instructed by the RTC to turn off the environmental system, notify customers and offload the train. The Train Operator notified the RTC the consist was clear of customers at approximately 6:59 p.m. and the RTC de-energized third rail power on Track 2. At 7:05 p.m., the Dunn Loring Station Manager directed customers from the platform out of the station.

At 7:08 p.m. the Train Operator reported the smoke had slightly dissipated, MTPD had arrived on the scene and the platform was clear of customers. MTPD assumed on scene command (OSC).

At approximately 7:15 p.m., trains began single tracking between West Falls Church and Vienna Stations.

Fairfax County Fire and Rescue Department (FCFRD) arrived at 7:16 p.m. and entered the roadway to investigate.

A Road Mechanic arrived on the scene and at 7:22 p.m., the RTC instructed the Train Operator of Incident Train 901 to take over operations of Train 829 which was single-tracking through the station.

An Office of Rail Transportation (RTRA) Supervisor arrived at 7:24 p.m. and was appointed on-scene commander (OSC) by ROCC, despite command previously being established by MTPD and FCFRD.

Office of Car Maintenance (CMNT) personnel performed an on-scene inspection of the train and discovered the cause of the smoke was a short in the operator's cab heater. Tripped circuit breakers were also found in the cab. CMNT determined the train was safe to move to West Falls Church Yard.

The RTRA Supervisor notified the RTC that FCFRD personnel found no signs of fire or smoke on the tracks, cleared the roadway and turned the scene back over to RTRA. Third rail power was restored, and the incident train was granted an absolute block to West Falls Church Yard where it underwent post-incident inspection. CMNT personnel found a failed CHC3 contactor, which is an electrical contactor activated when heat is needed.

The Office of the Chief Mechanical Officer (CMOR) Incident Investigation Team (IIT) also identified a failed CHC3 contactor. Contacts 1-2 were stuck closed, keeping the heater element energized. The contacts of the contactor appear to have been welded closed, and the investigation identified that Metrorail had been rebuilding the contactors in the field rather than replacing the contactors as required. CMOR IIT also identified a failed cab heater blower. Heater blowers are designed to force air across the heating element and out of the cab area.

Although not a contributing factor, CMOR IIT found that Automatic Train Control (ATC) was not communicating with the Vehicle Monitoring System (VMS) in two cars and that the 3/4 friction brake system did not communicate with three cars during the incident.



Probable Cause:

The probable cause of this event was Metrorail's improper maintenance procedures, which led to a failure of the cab heater and heavy smoke.

Corrective Actions:

Metrorail issued a memorandum instructing all personnel on the requirement to replace cab heater contactors with new contactors. Rebuilding or repairing the component is not permitted.

Metrorail is evaluating the appropriate inspection intervals for cab heater and contactors.

WMSC staff observations:

The WMSC issued findings requiring corrective action plans on February 22, 2022, as part of our Audit of Emergency Management and Fire and Life Safety Program, related to Metrorail's inconsistency in following the incident command system (ICS) and procedures that do not comply with National Incident Management System (NIMS)/ICS requirements.

Staff recommendation: Adopt final report.



Washington Metro Area Transit Authority Department of Safety and Environmental Management (SAFE) FINAL REPORT OF INVESTIGATION A&I E21602

Date of Event:	11/25/2021
Type of Event:	Evacuation for Life Safety Reasons
Incident Time:	18:55 hours
Location:	Dunn Loring, Track 2
Time and How received by SAFE:	19:00 hours. SAFE/IMO On-call Phone
WMSC Notification Time:	20:17 hours
Responding Safety Officers:	WMATA SAFE: No
	WMSC: No
	Other: N/A
Rail Vehicle:	Train ID 901, [L3164-3165.3035-3034.3246-3247T]
Injuries:	None
Damage:	Left side Operator Cab Heater/floor heater element
	burnt on Lead Car 3164.
SMS I/A Incident Number:	20211125#97041MX

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November 25, 2021

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Abbreviations and Acronyms

AIMS	Advanced Information Management System
ATC	Automatic Train Control
ARS	Audio Recording Service
ССТV	Closed Circuit Television
CMNT	Office of Car Maintenance
CMOR	Office of Chief Mechanical Officer
COMR	Office of Radio Communications
ESR	Event Scene Release
FCFRD	Fairfax County Fire and Rescue Department
FT	Foul Time
IC	Incident Command
IIT`	Incident Investigation Team
IMO	Incident Management Officer
MOC	Maintenance Operations Center
MSRPH	Metrorail Safety Rules and Procedures Handbook
МТРО	Metro Transit Police Department
NOAA	National Oceanic and Atmospheric Administration
OSC	On-scene Commander
ROCC	Rail Operations Control Center
RTC	Rail Traffic Controller
RTRA	Office of Rail Transportation
SAFE	Department of Safety and Environmental Management
SOP	Standard Operating Procedure
VMS	Vehicle Monitoring System
WMSC	Washington Metrorail Safety Commission

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Executive Summary

On Friday, November 25, 2021, at approximately 18:55 hours, the Train Operator on-board Orange Line Train ID 901 [L3164-3165.3035-3034.3246-3247T] contacted the Rail Operations Control Center (ROCC) Radio Rail Traffic Controller (RTC) and reported smoke was emitting from Lead Car 3164 at Dunn Loring Station, Track 2. The Radio RTC instructed Train ID 901 Train Operator to turn off the environmental system in the consist, make announcements to customers, offload the consist, and verify the consist was clear of customers. The ROCC then initiated emergency notifications to the respective internal and external departments. There were no injuries reported as a result of this incident.

Based on the Advanced Information Management System (AIMS) playback, Train ID 901 berthed at Dunn Loring Station, Track 2, at approximately 18:54 hours. Audio Recording System (ARS) playback revealed that at approximately 18:59 hours, Train ID 901 Train Operator reported that the affected consist was offloaded. At approximately 19:03 hours, Train ID 901 was re-blocked to non-revenue Train ID 701. At approximately 19:05 hours, third rail power was de-energized at Dunn Loring Station, Track 2. At approximately 19:08 hours, Train ID 901 Train Operator reported that the smoke had dissipated slightly, MTPD was on the scene, and all customers were on the mezzanine. Fairfax County Fire and Rescue Department (FCFD) arrived on scene and assumed Incident Command at approximately 19:16 hours. After investigation of the consist, the source of the smoke was determined to be electrical in nature, originating from the lead car operator's compartment heater.

At approximately 19:55 hours, the Office of Rail Transportation (RTRA) Supervisor reported that FCFD turned the scene back over to RTRA. An Office of Car Maintenance (CMNT) Road Mechanic arrived at the incident site and inspected the consist. During the onsite inspection process, the CMNT Road Mechanic discovered a short of the operator's cab heater on Lead Car 3164 that caused the smoke conditions. In addition, the cab heater circuit breaker had tripped. After the CMNT Road Mechanic completed their assessment, they determined that the consist was safe for transport. The Radio RTC instructed the RTRA Supervisor to transport the nonrevenue train down the line to West Falls Church Yard for post-incident inspection. At approximately 20:11 hours, Train ID 701 continued to West Falls Church Yard for post-incident inspection.

The Department of Safety and Environmental Management's (SAFE) Incident Management Official (IMO) contacted the Washington Metrorail Safety Commission (WMSC) at approximately 20:17 hours and was approved for an Event Scene Release (ESR) per the Program Standard. After reviewing the ARS, there did not appear to be any communication deficiencies over the radio.

CMNT conducted troubleshooting efforts at West Falls Church Yard on November 26, 2021, and found a failed CHC3 contactor. The CHC3 contactor was found to have been repaired previously. instead of replaced as prescribed. CMNT replaced all the components associated with the overheated damage. CMNT reported they monitored the cab heater while operating for an hour with no issues identified. See Appendix A.

The Office of Chief Mechanical Officer (CMOR) / Incident Investigation Team (IIT) post-incident analysis revealed no faults in the logs that would have contributed to this incident. CMOR IIT analyzed the operator's cab circuit and identified two items that may have contributed to the

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operator's cab heater overheating. Specifically, contacts 1-2 were stuck in the closed position, keeping the heater element constantly energized, likely to the point of failure. They are part of the cab heater assembly. These parts are located internally. Additionally, CMOR IIT identified the that cab heater blower was damaged. The cab heater blower provides heat to the cab area to keep passengers and train operator warm. A full failure analysis of the assembly was not conducted as the CHC3 contactor was identified as the probable cause of the event.

The probable cause of the Evacuation for Life Safety Reasons event on Train ID 901 at Dunn Loring Station was a mechanical failure within the operator's cab heater on Car 3164, which resulted in overheating and smoke conditions. A Contributing Factor to the event was the use of improper procedure (rebuild instead of replacement). The investigation also identified some deviations from established response procedures and Incident Command. These deficiencies are noted in the findings section of this report.

Incident Site

Dunn Loring Station, Track 2.

Field Sketch/Schematics





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:

- Documentation Review A collection of relevant work history information and process documentation in Metro systems of record. These records include:
 - Metrorail Safety Rules and Procedures Handbook (MSRPH)
 - Metro Transit Police Department (MTPD) Hot Wash Summary
 - National Oceanic and Atmospheric Administration (NOAA)
 - Rail Operations Control Center (ROCC) Procedures Manual
 - Office of System Maintenance, Office of Radio Communications (COMR)
 - Office of Car Maintenance (CMNT)

- Office of Chief Mechanical Officer (CMOR) / Incident Investigation Team (IIT)
- System Data Recording Review A collection of information contained in Metro Data Recording Systems. This data includes:
 - Audio Recording System (ARS) playback [Radio and Phone Communications]
 - Advanced Information Management System (AIMS) playback

Investigation

On Friday, November 25, 2021, at approximately 18:55 hours, the Train Operator of Orange Line Train ID 901 [L3164-3165.3035-3034.3246-3247T] contacted the ROCC RTC and reported smoke was emitting from their Lead Car 3164 at Dunn Loring Station, Track 2. The Radio RTC instructed the Train Operator to turn off the environmental system in the consist, make announcements to customers, offload the consist, and verify the consist was clear of customers. The ROCC then initiated emergency notifications to the respective internal and external departments. There were no injuries reported as a result of this incident.

Chronological Event Timeline

Time	Description		
18:55:52 hours	<u>Train ID 901 Train Operator:</u> Contacted Radio RTC and reported smoke was emitting from the Lead Car 3164 at Dunn Loring Station, Track 2 <u>Radio RTC:</u> Instructed the Train Operator to shut off the consist environmental system, make announcements to customers, offload the consist and verify clear of customers. [Ops 4]		
18:57:50 hours	Assistant Operations Manager: Contacted Fairfax County Police and Fire and stated the ROCC received a report of smoke emitting from a train. "The address is 2700 Gallows Rd, which is Dunn Loring Metro Station." <u>Fairfax County Police and Fire Dispatcher:</u> Responded, "are there any flames?" <u>Assistant Operations Manager</u> : Responded, "no flames reported at this time." <u>Fairfax County Police and Fire Dispatcher:</u> Responded, "are there any customers on the train, and will someone be on scene to direct the fire department? <u>Assistant Operations Manager</u> : Responded, "we are offloading the train,		
18:58:12 hours	ROCC RTC: Contacted MTPD and reported that ROCC received a report of smoke emitting from Train ID 901 Lead Car 3164 at Dunn Loring Station, Track 2, and there was no report of fire showing. MTPD: Responded, "is the fire department en route? ROCC RTC: Responded, "I have not contacted them, but the train is being offloaded." [Phone]		
18:58:20 hours	Radio RTC: Dispatched the RTRA Supervisor and CMNT Road Mechanic to Dunn Loring Station, Track 2. [Ops 4]		
18:59:00 hours	Train ID 901 Train Operator: Contacted Radio RTC and reported that the consist was clear of customers and performed a radio check on their handheld. Radio RTC: Acknowledged and stated the radio check on a handheld was loud and clear. [Ops 4]		

Time	Description		
19:04:21 hours	Radio RTC: Dispatched Gap Train ID 829 Train Operator and instructed them to pick up the RTRA Supervisor at Virginia Square Station and CMNT Road Mechanic to head to Dunn Loring Station. <u>Train ID 901 Train Operator:</u> Notified the Radio RTC that the Dunn Loring Station Manager directed customers to leave the platform due to the smoke conditions. [Ops 4]		
19:05:12 hours	Third rail power was de-energized. [AIMS Playback]		
19:08:58 hours	<u>Train ID 901 Train Operator:</u> Notified Radio RTC that the smoke had dissipated slightly, MTPD was on the scene, and all customers were on the mezzanine. [Ops 4]		
19:15:30 hours	Radio RTC: Advised Station Managers that Orange line trains are single tracking between West Falls Church and Vienna Stations due to Fire Department activities. [Ops 5]		
19:18:54 hours	<u>Radio RTC:</u> Contacted Train ID 829 Train Operator and instructed them to enter Dunn Loring Station, Track 1 at a restricted speed and that "the Fairfax County Fire and Rescue Department is on the roadway at Dunn Loring, Track 2." [Ops 4]		
19:19:53 hours	Radio RTC: Contacted Gap Train ID 829 Train Operator and instructed them to go in service at Dunn Loring Station, Track 1, and turn their train over to the Train ID 901 Train Operator to continue to Vienna Station. [Ops 4]		
19:20:25 hours	Train ID 901 Train Operator: Informed the Radio RTC that all passengers were cleared from the station. [Ops 4]		
19:21:26 hours	Radio RTC: Contacted CMNT Road Mechanic and instructed them to apply the handbrakes on the trailing car of the incident train. [Ops 4]		
19:22:28 hours	<u>Radio RTC:</u> Contacted Train ID 901 Train Operator and instructed them to continue on operating Train ID 829 when it's safe to do so. <u>CMNT Road Mechanic:</u> Contacted the Radio RTC and reported that the handbrakes had been applied to Car 3247. [Ops 4]		
19:24:55 hours	RTRA Supervisor: Contacted the ROCC Radio RTC and reported they are on scene. Radio RTC: Acknowledged and stated "RTRA Supervisor, you are appointed as the OSC." RTRA Supervisor: Acknowledged and stated, "I would provide the ROCC with the MTPD badge ID number." [Ops 4]		
19:28:19 hours	<u>CMNT Road Mechanic:</u> Contacted the Radio RTC and reported a shortage in the cab heater on Lead Car 3164 caused the smoke conditions, and all associated circuit breakers were tripped. [Ops 4]		
19:39:58 hours	<u>RTRA Supervisor:</u> Contacted the ROCC Radio RTC and reported that the Fairfax County Fire and Rescue Department had safely cleared the roadway. [Ops 4]		
19:55:45 hours	<u>RTRA Supervisor:</u> Contacted the Radio RTC and reported all personnel and equipment are clear of the roadway and the Fairfax County Fire and Rescue Department turned the scene back over to RTRA. [Ops 4]		
19:57:12 hours	Radio RTC: Alerted all Ops 4 Train Operators and personnel and reported that third rail power is about to be restored between Vienna Station and West Falls Church Station, Track 2. [Ops 4]		

Time	Description
20:05:43 hours	<u>Radio RTC:</u> Contacted CMNT Road Mechanic and reported that once the incident train is ready to move, it will be transported to West Falls Church Yard by way of Track 2, under an absolute block. The Radio RTC granted the CMNT Road Mechanic permission to release the handbrake on the trailing car. [Ops 4]
20:09:02 hours	<u>RTRA Supervisor:</u> Contacted Radio RTC and reported that "we have brakes off on the incident train and ready to move," and the handbrakes had been released. <u>Radio RTC:</u> Instructed the RTRA Supervisor to perform a rolling brake test to ensure that the consist was rolling freely. [Ops 4]
20:09:57 hours	RTRA Supervisor: Contacted the Radio RTC and reported that they completed their rolling brake test and confirmed the consist was rolling freely. Radio RTC: Acknowledged and stated, "you have an absolute block to K06-30 signal, Track 2 with speeds not exceeding 15 MPH, verifying lunars and correct rail alignment along the way." RTRA Supervisor: Acknowledged. [Ops 4]

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

Advanced Information Management System (AIMS)

The images below depict the ROCC AIMS screen display during the incident sequence. These images are enlargements of a small portion of a controller's display screen and thus do not represent the actual view available to the ROCC controller.



Diagram 1 - Based on the AIMS playback, Train ID 901 berthed at Dunn Loring Station, Track 2, at 18:54:24 hours.

	Dunn Loring FI IN ST TP SP FA		
_	201	TRK	
	1007 -		
	·		_
55	TBS		
	Playback Control 📼 🛛 🗙		
	11/25/21 19:03:12 EST 12 [×] ▶ ₩		
	Setting Flavor In Fath		

Diagram 2 - Based on the AIMS playback, Train ID 901 was re-blocked to non-revenue Train ID 701 19:03:12 hours



Diagram 3 - Based on the AIMS playback, Dunn Loring Station, Track 2, third rail power was de-energized at 19:05:12 hours.

Dunn Loring FI IN ST TP SP FA	
	TRK
201	
785	
Playback Control 💷 🛛 🗡	
11/25/21 20:11:36 EST 12X	
Setting	

Diagram 4 – Based on the AIMS playback, non-revenue Train ID 701 continued down the line to West Falls Church Yard at 20:11:36 hours.



Figure 1 – Non Operating Cab side floor heater element burnt on Car 3164.

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

COMR personnel performed a comprehensive radio operational test at Dunn Loring Station, Tracks 1 and 2. The test was successful, and the signal was at an optimal level.

Note: After reviewing the Audio Recording System playback, there did not appear to be any communication deficiencies over the radio.

Office of Car Maintenance (CMNT)

A CMNT Road Mechanic arrived at the incident site and inspected the consist. During the onsite inspection process, the CMNT Road Mechanic discovered a shortage of the operator's cab heater on Lead Car 3164 that caused the smoke conditions. In addition, the cab heater circuit breaker had tripped. After the CMNT Road Mechanic completed their assessment of the incident train, the CMNT Road Mechanic deemed the consist safe for transport. Based on ARS playback, the Radio RTC instructed the RTRA Supervisor to transport the non-revenue train down the line to West Falls Yard for post-incident inspection. At West Falls Church Yard, CMNT conducted troubleshooting efforts on November 26, 2021, and found a failed CHC3 contactor. A CHC3 contactor is an electrical contactor and it is activated when heat is called for. When this occurs, the contactor turns on and closes a set of contacts that provides electrical energy to the heating element. It is located in various places throughout the cars, dependent on what series vehicle it is, and whether it is an "A" car or "B" car. It can be located under the operator console and/or in the HVAC control box. CMNT replaced all the components associated with the overheated damage. CMNT reported they monitored the cab heater while operating for an hour with no issues identified. See Appendix A.

Office of Chief Mechanical Officer (CMOR) / Incident Investigation Team (IIT)

CMOR IIT post-incident analysis revealed no faults in the logs that would have contributed to this incident. However, after CMOR IIT analyzed the operator's cab circuit, they identified two items that may have contributed to the operator's cab heater overheating, including a failed CHC3 Contactor. Specifically, contacts 1-2 were stuck closed, keeping the heater element energized. Additionally, CMOR IIT identified a damaged cab heater blower. A cab heater blower is similar in design to a computer fan but in a larger scale. It forces the ambient air across the heating element and out to the cab area. CMOR did not perform an analysis of the cab heater blower to determine the root cause of that defect. It is part of an assembly consisting of the fan, the control wiring points/connections, and the heating element and housing. While not related to the heater failure, details from the data analysis revealed that Cars 3164 and 3165 ATC was not communicating with the VMS at the time of the incident. Additionally, the 3/4 friction brake system did not communicate with Cars 3164, 3165, and 3246. CMOR IIT reported that VMS signals did not monitor the operator's cab heater circuit.



Diagram 4 – Cab Heater Schematic

Metro Transit Police Department (MTPD)

MTPD personnel responded to the scene and established Unified Command with the Fairfax Fire Department Battalion Chief. The Command Post was initially established on the station platform but transferred to the Battalion Chief's vehicle outside the station on their arrival. MTPD personnel reported through the IMO that third rail power was confirmed deenergized, and a WSAD was installed before personnel entered the roadway. After inspecting the train and confirming no active fire, the Fire Department released the scene to MTPD at approximately 19:50 hours. MTPD then

transferred the scene to the RTRA Supervisor on scene. MTPD noted that the Train Operator was not available on the scene to be interviewed and assist with the investigation.

SAFE Incident Management Official (IMO) Incident Log

The SAFE IMO Incident Log revealed that Train ID 901 Train Operator reported heavy smoke emitting from the Lead Car 3164, and the ROCC instructed the Train Operator to offload their consist. Additionally, SAFE IMO reported that heavy smoke from the lead car's operating cab was visible on camera footage in ROCC, which resulted in the Dunn Loring Station being evacuated. Reportedly, third rail power was de-energized by the ROCC, and the Fairfax County Fire and Rescue Department responded, conducted their inspection, and found no sign of fire outside of the train. The ROCC established single tracking efforts on Track 1. The SAFE IMO reported that the initial determination of the cause of the smoke conditions was a malfunctioning cab heater in the lead car. Reportedly, FCFD turned over the scene to MTPD. MTPD then turned over the scene to RTRA due to this event originating as a maintenance issue. The WMSC was contacted at 20:17 hours and approved the ESR per the Program Standard. Third rail power was restored, and the incident train was transported to West Falls Church Station for post-incident inspection.

Weather

At the time of the incident, NOAA recorded the temperature at 48° F, partly cloudy and 56% humidity. Weather does not appear to be a contributing factor in this event. (Weather source: National Oceanic Atmospheric Administration – Location: Vienna, VA)

<u>Findings</u>

- The smoke event was caused by a cab heater failure, traced to the CHC3 contactor.
- Emergency responders were requested within two minutes of the first report of smoke and WMATA personnel were dispatched within three minutes.
- The incident train was cleared of customers by the train operator approximately four minutes after they reported smoke in the lead car.
- The Station Manager made announcements to clear the station approximately nine minutes after the first report of smoke.
- Third rail power was deenergized approximately ten minutes after the first report of smoke.
- Smoke conditions began to dissipate approximately thirteen minutes after the first report of smoke.
- MTPD arrived on scene approximately thirteen minutes after the first report of smoke.
- ROCC advised the arriving RTRA Supervisor that they were appointed as OSC. However, MTPD units were already on scene and in Unified Command with FCFD. A review of the incident response does not indicate any conflicting actions or miscommunication of responsibilities as a result.
- The Train Operator left the scene as instructed by the Radio RTC before being interviewed by MTPD and Fire Department personnel as part of the incident investigation.
- The MTPD Hot Wash Summary indicated that power was confirmed deenergized by hot stick and a WSAD was installed prior to Fire Department personnel entering the roadway.

Immediate Mitigation to Prevent Recurrence

- The ROCC Radio RTC instructed Train ID 901 Train Operator to offload their consist.
- The ROCC removed the incident train from service for post-incident investigative processes.

Probable Cause Statement

The probable cause of the Evacuation for Life Safety Reasons event on Train ID 901 at Dunn Loring Station was a mechanical failure within the operator's cab heater on Car 3164, which resulted in overheating and smoke conditions. A Contributing Factor to the event was the use of an improper maintenance procedure (repair instead of replacement). The investigation also identified some deviations from established response procedures and Incident Command. These deficiencies are noted in the findings section of this report.

SAFE Recommendations/Corrective Actions

The following are the recommendations and corrective actions identified as a result of this investigation. These recommendations and corrective actions are tracked using WMATA's Safety Measurement System Incidents/Accidents (SMS I/A) Module and are verified by SAFE upon completion. The responsible department is identified in the corrective action code, and the respective departmental Safety Risk Coordinator (SRC) will manage the mitigation. Refer to the SMS I/A Module for additional information.

Corrective Action Code	Description	Estimated Completion Date
97041_SAFECAPS_ CMNT_001	CMNT issued memorandum reinstructing all personnel on the requirement to replace cab heater contactors. Rebuilding or repairing the component is not permitted.	Completed (Appendix D)
97041_SAFECAPS_ CENV_001	CENV to evaluate appropriate inspection interval (e.g., annual) for cab heater and contactors.	3/31/2022

Appendix A – MTPD Hot Wash Report



Metro Transit Police Department Hot Wash Summary



ADMINISTRATION HANDLING INSTRUCTIONS

This report will be completed after a debriefing or "hot wash" in accordance with applicable department policies/directives and procedures; at the request of the Chief of Police or designee or following any incident or event requiring the activation of the Incident Command System (ICS). The purpose of the report is to provide information, assess response, identify training, equipment needs, and to identify areas that may require improvement. After completion of this report, it should be forwarded to the Deputy Chief through the chain of command for review.

This report and any attachments are classified as For Official Use Only. This report may be used for emergency incidents, special events, and exercises. Items marked with an asterisk (*) will be completed by the last official designated as the Incident Commander (IC) as there may be more than one IC during the incident.

	IN	CIDENT	SUMMARY	
Incident Requiring ICS Activation: Smoke o			Fire on Train #901	
*Incident Commander (IC): Sergear		Sergeant	it	
MTPD CCN:	2021-05723		Local CCN:	
*Date ICS Initiated:	11/25/2021	1.00	*Time ICS Initiated:	1859
*Date ICS Terminated:	11/25/2021		*Time ICS Terminated:	2007
*Duration of Incident:	1 hour 06 minutes		*Service Disrupted (Type and Time):	Disable Train 1859 hrs to 2007 hrs
Incident Location:	Dunn Loring Metro, Orange Line Track 2		Command Post Location:	Kiss and Ride
MTPD On-Scene Commander (OSC):	Sgt		Command Aid for OSC:	Officer
Forward Liaison:	Officer		Unified Command:	YES
OCC Liaison:	On Duty IMC)	Alternate Channel:	NO
Single Tracking (Time & Track No.):	1911 hours to 2006 hours Track 1		Bus Bridge Established (From /To):	NO
Inner and/or Outer Perimeter:	N/A		Power De-energized:	YES
OSC Relinquished Scene Command to Name Dept: Rail	Rail Supervi 1950 hours	sor	Medical Attention Required/Requested:	NONE
Entry/Exit Log:	YES		CID Response:	NO

For Official Use Only

The information in this document marked FOUO is the property of the Washington Metropolitan Area Transit Authority's Metro Transit Police Department (MTPD) and may be distributed within the Federal Government (and its contractors) to law enforcement, public safety and protection, intelligence officials and individuals with a need to know. Distribution to other entities without prior MTPD authorization is prohibited. Precautions shall be taken to ensure this information is stored and destroyed in a manner that precludes unauthorized access. Information bearing the FOUO marking may not be used in legal proceedings without prior authorization from the originator. Recipients are prohibited from posting information marked FOUO on a website or unclassified network.

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Metro Transit Police Department Hot Wash Summary

WMATA ON-SCENE PERSONNEL				
Name	Department/Office	Title/Role		
	MTPD	On Scene Command #1		
	MTPD	On Scene Command #2		
	MTPD	Forward Command #1		
	MTPD	Forward Command #2		
	MTPD	Entry Exit Log		
	RTRA	Rail Supervisor		
	Power	Power Dept		
	Power	Power Dept		
	CMNT	Car Maintaince		
	RTRA	Train Operator		

EXTERNAL ON-SCENE PERSONNEL				
Name	Agency/Department	Title/Role		
FFX Medic 430	Ambulance	Staging		
FFX Engine 430	Fairfax County Fire Dept.	Fire investigation		
FFX Rescue 418	Fairfax County Fire Dept.	Fire investigation		
FFX Truck 413	Fairfax County Fire Dept.	Fire investigation		
FFX Truck 429	Fairfax County Fire Dept.	Fire investigation		
FFX Battalion 404	Fairfax County Fire Dept.	Fire investigation		

Use separate sheet if additional space is required.

MTPD-OSP-TMPL-009-00

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Effective: 12/30/20

Attachment 1 – Page 2 of 4.

Metro Transit Police Department Hot Wash Summary

REQUESTS							
*Radio Run Requested (Yes/No):	NO						
If "Yes," location where tape is stored:							
*Digital Video Evidence Unit (DVEU)	NO						
Video Requested (Yes/No):							
If "Yes," location where video is stored:							

OBSERVATIONS

 -1859 Train 901 Track #2 offloaded for smoke in the lead car at Dunn Loring Metro station DNLR. -1859 Fairfax Fire department is notified. -1900 Sergeant is direct on the call. -1901 DVUE solve is direct on the call. -1902 Train operator reported seeing smoke fire department notified. -1902 Visible heavy smoke on the lead car. 1904 Sergeant solve is direct on the lead car.
-1908 Smoke is coming from underneath the lead car bench seat next to the operators cab. -1908 Train has been powered down visible smoke in the station. -1909 Officer and the station of
 -1909 Train car that smoke is coming from is listed as #3164. -1911 IMO to DNLR OSC power is de-energized on Track #2 and Single Tracking begins on Track #1. -1912 Officer becomes DNLR Forward Liaison. -1913 Forward Command post is moved to outside the station. -1916 Train was offloaded prior to officers getting on scene, No patrons was in the station. -1916 Battalion Chief becomes for Fairfax fire unified command post is established at the battalion chief
truck. -1917 Trains single tracking from VENN-WEFC. -1919 Officer Methods in the provided and going under train. -1920 DNLR Command to IMO, track #2 power is down confirmed by hot stick and WSAD. -1920 Fire department entering wayside and going under train. -1920 Train is coming in on track #1 for any patrons. -1921 Front and Rear WSAD deployed. -1926 Power Department is on scene. -1931 Fire units underneath the train doing an inspection. -1935 The heater box underneath the bench short circuited and caught fire -1940 Fire department is clearing the tracks. -1941 Sgt Methods is now the OSC, out with Battalion Chief -1950 Battalion Cheif Methods is turned the scene over to Sgt MTPD.
-1950 Sgt has turned the scene over Rail supervisor -1951 MTPD Units are clear. -1953 Clear -2006 Normal Service Conducted -2007 Hot wash conducted with MTPD, Rail and Fairfax Fire.

Use separate sheet if additional space is required.

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MTPD-OSP-TMPL-009-00

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Attachment 1 – Page 3 of 4.

Metro Transit Police Department Hot Wash Summary

NOTES At 1859 hours communications advised that train #901 was at Dunn Loring Metro Station with visible smoke on the first car of the train. The train was off loaded by the train operator with no patrons claiming injuries or needing medical assistance. Fairfax Fire responded to the scene and inspected the train. The smoke was coming from a heater box by the operator's cabin, and it appeared to be an electrical issue and a car maintenance issue. did not remain on scene; he left immediately on one of the trains that entered the station. The Train Operator, Both the MIPD forward command and the Fairfax Fire official on scene on the platform were looking for the train operator to gather information about the train and he could not be located. Throughout the entire incident, ROCC continued to report via regular e-mails that the operator was on scene. I was made aware of this and spoke to Rail Supervisor about it. I reiterated about it. I reiterated that for any train incident the train operator is not to leave the incident until he is cleared by MTPD and that the Fire official on-scene needed information about the operation of the train that only the operator could have provided. I made the IMO aware that the train operator left and could not be accounted for. The Fire forward command also informed Rail Supervisor accounted for the importance of the importance of the operator remaining on-scene for any incident involving the train he or she is operating. Despite all of these efforts, the final e-mail page from the ROCC continued to report that the operator was on the scene. An alternate radio channel was not switched to since there was limited radio transmission at the time. A hot wash was conducted with all MTPD, Fairfax Fire and the Rail Supervisor on scene. Use separate sheet if additional space is required. On Scene Commander's Title, Printed Name, and Signature/Date Sergeant Watch Commander's Title, Printed Name and Signature/Date Captain

Patrol Operations Bureau Commander's, Printed Name and Signature/Date

12-1-21

Office of Emergency Management Director's, Printed Name and Signature/Date

12 2021

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Attachment 1 – Page 4 of 4.

Appendix B – CMNT Work Order Details

M		Washing Mainte	gton Metrop nance and M Worl	oolitan Area Material Mar k Order Det	a Transit A nagement S ails	authority System			Page 1	of 2 MX76PROI
Work Ord Type: CM	ler #: 16724368			Status: COMP 11/26/2021 13:-				2		
	Work Description	OPERATOR REPORTED	HEAVY SMOKE	EMITTING FROM	CAB AREA,	23/51, K07, C	MD, ENVR, 901			
Jol	b Plan Description									
RM REPO	RTED CAB HEATER	SHORTED								
				Work Informati	ion					
	Asset: R3164	3164, RAIL CAR, BREDA, 3000 A	C, A CAR	Owning Offic	ce: CMNT-CMNT-C	MNT		Pare	ent:	
	Asset Tag: R3164			Maintenance Offic	ce: CMNT-NEWC-I	NSP		Create Da	ite: 11/25/202	1 20:37
	Asset S/N: 3164			Labor Grou	IP: CMNT			Actual Start: 11/25/2021 20:30		
We	Location: 1230 D99, NEW CARROLLTON YAR		D Crew:					Actual Comp: 11/26/2021 13:42		
Fe	ailure Class: CMNT015	HEATING, VENTILATION, AND C (HVAC)	COOLING	GL Accour	nt: WMATA-02-333	393-50499160-04	¥1-*******(OPR**		-
Pro	blem Code: 1280	CAB HEATER DEFECT		Supervise	or:			Target Sta	art:	
Requested By:			Requestor Phone:					Target Comp:		
Chain Mark Start:		Chain Mark End:					Scheduled Sta	art:		
Crea	ate-Mileage: 2550253.0			Complete-Mileag	ge: 2550668.0					
Task IDs										
Task ID										
10	Verify failure. Found le	ft side cab heater burned. NFW. L1	8-34-3002							
Component: 000-300-N02 HVAC: CAB HEATER ASSY; 2K/3K		Work Accomp: CHECKED Reason: FAILED				Status: COMP	Position: 21	3 War	ranty?: N	
20	PER CENV'S RECOM FURTHER INSPECTIO	MENDATION'S ATTEMPTED TO P DN DISCOVERED FLATS ON CAR	ERFORM BRAKE R/ S 3034 & 3035 ON FI	ATE CHECK, CARS 3 RONT & REAR TRUC	8035 & 3246 FAILE CKS.	D H1A SELF TE	ST. MAINT CODE 24	(SELFTEST R	7D LAPEVEN	T) UPON
	COULD NOT PERFORM	BRAKE RATES DUE TO HIA SELFTES	T FAILURES. RE-ESTA	BLISHED VMS COMMU	INICATIONS W/ ALL I	FRICTION BRAKE	S IN CONSIST (3034-303	35,3164-3165,324	46-3247).	
Component	t: 6K/7K	TEM, FRICTION BRARE, 20010	Work Accomp: INSPECTED Reason: INOPERATIVE St				Status: COMP	Position:	War	ranty?: N
30	SEE DESCRIPTION									
	T/S AND DISCOVER PAS	SENGER SIDE CAB HEATER, AND CO	INTACTOR FLASHED.	REMOVED AND REPLA	CED BOTH CONTAC	TOR AND CAB HE	EATER. OPS CHECK GO	OD. USED CON	TACTOR FROM	I HVAC SHO
	nent: GROUP; 2K/3K/6K/7K		Work Accomp: REPLACED NEW Reason: FLASHED S			Status: COMP	Position:	War	ranty?: N	
Component	: GROUP; 2K/3K/6K/7K									
Component Actual Labo	t: GROUP; 2K/3K/6K/7K									
Component Actual Labo Task ID	t: GROUP; 2K/3K/6K/7K Labor		Start Date	End Date	Start Time	End Time	Approved?	Regular Hours	Hours	Line Co
Component Actual Labo Task ID 10	t: GROUP; 2K/3K/6K/7K		Start Date 11/26/2021	End Date 11/26/2021	Start Time 03:30	End Time 04:00	Approved? Y	Regular Hours 00:30	Hours 00:00	Line Co \$20.0
Component Actual Labo Task ID 10 20	t: GROUP: 2K/3K/6K/7K		Start Date 11/26/2021 11/26/2021	End Date 11/26/2021 11/27/2021	Start Time 03:30 23:00	End Time 04:00 04:00	Approved? Y Y	Regular Hours 00:30 05:00	Premium Hours 00:00 00:00	Line Co \$20.0 \$187.
Component Actual Labo Task ID 10 20 30	t: GROUP: 2K/3K/6K/7K		Start Date 11/26/2021 11/26/2021 11/26/2021	End Date 11/26/2021 11/27/2021 11/26/2021	Start Time 03:30 23:00 06:30	End Time 04:00 04:00 11:00	Approved? Y Y Y	Regular Hours 00:30 05:00 04:30	00:00 00:00 00:00	Line Co \$20.0 \$187.3 \$201.0

Attachment 2 - Page 1 of 2.

Washington Metropolitan Area Transit Authority Maintenance and Material Management System

Work Order Details

Status: COMP 11/26/2021 13:42

Work Description: OPERATOR REPORTED HEAVY SMOKE EMITTING FROM CAB AREA, 23/51, K07, CMD, ENVR, 901 Job Plan Description:

Actual Labor	it:											
Task ID	Labor				Start Date	End Date	Start Time	End Time	Approved?	Regular Hours	Premium Hours	Line Cost
								Tota	al Actual Hour/Labo	or: 14:30	00:00	\$572.82
Actual Mater	ials											
Task ID	Item	Assetnum	Description				Storeroom	Trans Date	Issue Unit	Quantity	Unit Cost	Line Cost
	L18343002		HEATER:LEFT SID	DE,CAB			254	11/26/2021	EA	1	\$9,470.97	\$9,470.97
	R42100006		EXTINGUISHER: (DRY CHEMICAL M	CAPACITY: 10 IULTI-PURPO	LB, EXTINGUI SE, 10 LB, RAT	SHER:FIRE,ABC ING: ABC, USE: FIRE	254	11/26/2021	EA	1	\$48.85	\$48.85
										Total Actu	al Materials:	\$9,519.82
Related Incid	ents											
Ticket	Description			Class St		Status	Relationship		hip			
8572689	9 OPERATOR REPORTED HEAVY SMOKE EMITTING FROM CAB AREA, 23/72, K07, CMD, ENVR, 901					SR	SR RESOLVED)	ORIGINATOR		
Failure Repo	rting											
Cause	Remedy						Supervisor			Rema	irk Date	
2509	NOT APPAR MAINTENAI	RENT AT THIS L	EVEL OF	0004	REPLACED						11/26	/2021
Remarks	CAB HEATER	AND CONTACTO	R SHORTED OUT. R/F	CAB HEATER	AND CONTACTO	R. OPS CHECK GOOD. C	K FOR SERVICE					

WT_plust_woprint.rptdesign

Attachment 2 – Page 2 of 2.

11/29/2021 10:27

Appendix C – Cab Heater Contactor



*This image shows a new cab heater contactor.



Please inform all CMNT personnel that WMATA part numbers R18332003 and L18343002 are to be replaced with new assemblies from WMATA storerooms.

Any vehicle that has had these parts removed and repaired <u>MUST</u> be recalled, and new assemblies installed where needed.

Moreover, inform all appropriate CMNT staff of this notice and the need for them to "purge" the shops of any parts that are or have been used to repair these items. All parts that are <u>NOT</u> new in the shops are to be disposed adhering to current CMNT practices. All parts which are <u>New</u> must be returned to the storeroom utilizing current approved procedures.



Metropolitan Area Transit Authority