



WMSC Commissioner Brief: W-0237 – Evacuation for Life Safety Reasons at Dulles Rail Yard – March 21, 2023

Prepared for Washington Metrorail Safety Commission meeting on August 8, 2023

Safety event summary:

On Tuesday, March 21, 2023, the Transportation and Police Building at the Dulles Rail Yard was evacuated for life-safety reasons due to a report of the smell of smoke.

At 1:58 a.m., an Office of Rail Transportation Depot Clerk reported a burning smell, which they believed was coming from the restroom area to a Rail Operations Control Center (ROCC) Rail Traffic Controller. Seconds later, a Train Operator in the building notified the Interlocking Operator that the building was being evacuated. A review of closed-circuit television for this investigation showed that at 2:00 a.m., the Depot Clerk exited the building, then returned and activated the fire alarm pull station at 2:02 a.m. to ensure others in the building knew to evacuate. The Depot Clerk did not communicate to the ROCC or Interlocking Operator that they activated the fire alarm pull station.

The Rail Traffic Controller notified the ROCC Assistant Operations Manager, the Rail Operations Information Center, and Metro Transit Police Department. The Assistant Operations Manager requested Loudon County Combined Fire and Rescue System personnel respond to the building.

At 2:04 a.m., Metro Transit Police Department personnel arrived and Cintas Fire Protection notified the Maintenance Operations Center (MOC) that the pull station had been activated. This notification from Cintas Fire Protection, approximately six minutes after the initial report was made to the ROCC Rail Traffic Controller, was the first report the MOC received regarding the event. MOC had not been notified of the initial report to the Rail Traffic Controller on the other side of the ROCC.

Office of Radio Communications, Power personnel, and fire department personnel responded. Fire department personnel found no signs of smoke in the building and reset the alarm. Fire Department personnel noted the smell of smoke reported may have been from a controlled brush fire at Marine Corps Base Quantico, approximately 40 miles from the building.

Probable Cause:

The probable cause of this event was the smell of smoke from an unknown source.



Washington Metropolitan Area Transit Authority
Department of Safety (SAFE)
Office of Safety Investigations (OSI)
FINAL REPORT OF INVESTIGATION A&I E23192

Date of Event:	March 21, 2023
Type of Event:	Evacuation for Life Safety Reasons
Incident Time:	01:58 Hours
Location:	Dulles Rail Yard
Time and How received by SAFE:	02:00 – SAFE/MAC
WMSC Notification Time:	02:58 Hours
Responding Safety Officers:	None
Rail Vehicle:	None
Injuries:	None
Damage:	None
Emergency Responders:	Metro Transit Police Department (MTPD), Loudoun County Fire and Rescue (LC-CFRS)
SMS I/A Number	20230404#107409

Dulles Rail Yard – Evacuation for Life Safety Reasons

March 21, 2023

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Abbreviations and Acronyms

AOM	Assistant Operations Manager
ARS	Audio Recording System
CAP	Corrective Action Plan
CCTV	Closed-Circuit Television
COMR	Office of Radio Communications
DVEU	Digital Video Evidence Unit
LC-CFRS	Loudoun County Combined Fire and Rescue System
MOC	Maintenance Operations Center
MSRPH	Metrorail Safety Rules and Procedures Handbook
MTPD	Metro Transit Police Department
NOAA	National Oceanic and Atmospheric Administration
RTC	Rail Traffic Controller
RTRA	Office of Rail Transportation
ROCC	Rail Operations Control Center
ROIC	Rail Operations Information Center
SAFE	Department of Safety
SOC	Security Operations Control Center
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 Tuesday, March 21, 2023, at 01:58 hours, an Office of Rail Transportation (RTRA) Depot Clerk contacted the Rail Operations Control Center (ROCC) Rail Traffic Controller (RTC) and reported a burning smell in the ceiling inside the Transportation and Police Building (Building J) located within the Dulles Rail Yard. A Train Operator then reported to the Interlocking Operator that Building J was being evacuated. The Metro Transit Police Department (MTPD) and Loudoun County Combined Fire and Rescue System (LC-CFRS) were notified and dispatched.

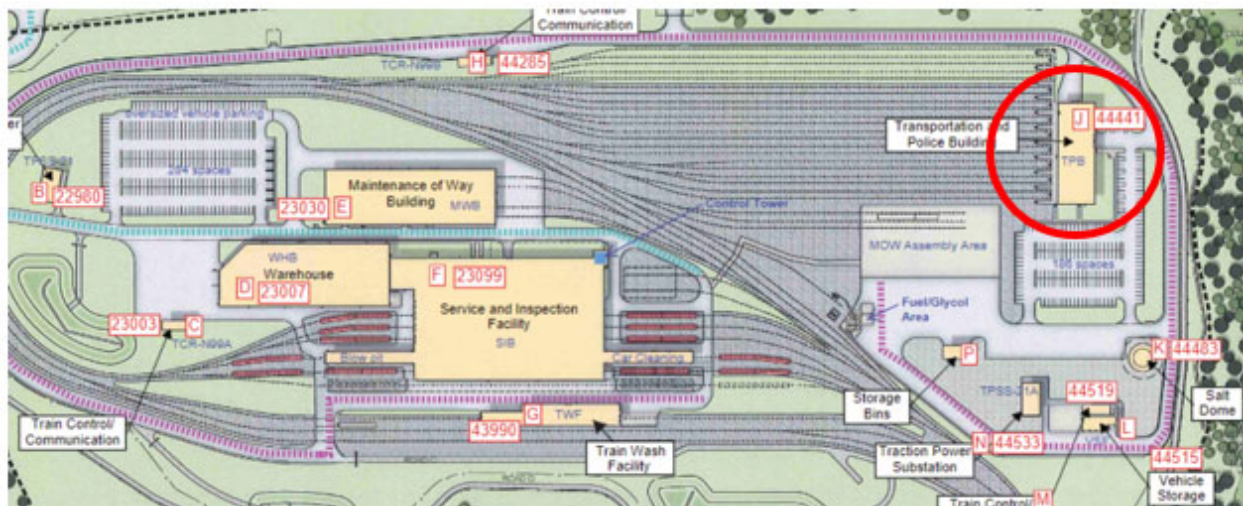
At 02:06 hours, MTPD Digital Video Evidence Unit (DVEU) reported no smoke was observed prior to the arrival of LC-CFRS. At 02:12 hours, LC-CFRS arrived, silenced the alarm, canvassed the area and reported no sign of smoke or fire in Building J. Before departing LC-CFRS reset the fire alarm. At 02:33 hours, MTPD reported Dulles Rail Yard was clear. There were no damages or injuries resulting from this event.

The probable cause of the Evacuation for Life Safety Reasons event at Dulles Rail Yard was the intentional action of an employee to activate a manual pull station alarm in response to an odor of smoke. No smoke or fire were found and no automated alarms activated based on the presence of smoke or heat.

Incident Site

Dulles Rail Yard, Building J

Field Sketch/Schematics



The above depiction is not to scale.

Purpose and Scope

The purpose of this accident investigation and candid self-evaluation is to collect and analyze available facts, determine the probable cause(s) of the incident, identify contributing factors, and make recommendations to prevent a recurrence.

Investigative Methods

The investigative methodologies included the following:

- Site Assessment through video and document review.
- Informal Interviews – Collected through conversations with individuals during the investigation to provide background and supporting information. Written statements were reviewed by personnel present during the event.
 - Depot Clerk
- Documentation Review – Collection of relevant work history information and process documentation contained in WMATA systems of record. These records include:
 - Metrorail Safety Rules and Procedures Handbook (MSRPH)
 - National Oceanic and Atmospheric Administration (NOAA)
 - Maximo Data
- System Data Recording Review – Collection of information contained in Metro Data Recording Systems. This data includes:
 - Audio Recording System (ARS) playback
 - Closed-Circuit Television (CCTV)

Investigation

On Tuesday, March 21, 2023, at 01:58 hours, an RTRA Depot Clerk contacted a ROCC RTC and reported a burning smell in the ceiling inside Building J located within the Dulles Rail Yard. A Train Operator then notified the Interlocking Operator that Building J was being evacuated. MTPD and LC-CFRS were notified and dispatched. There were no damages or injuries resulting from this event.

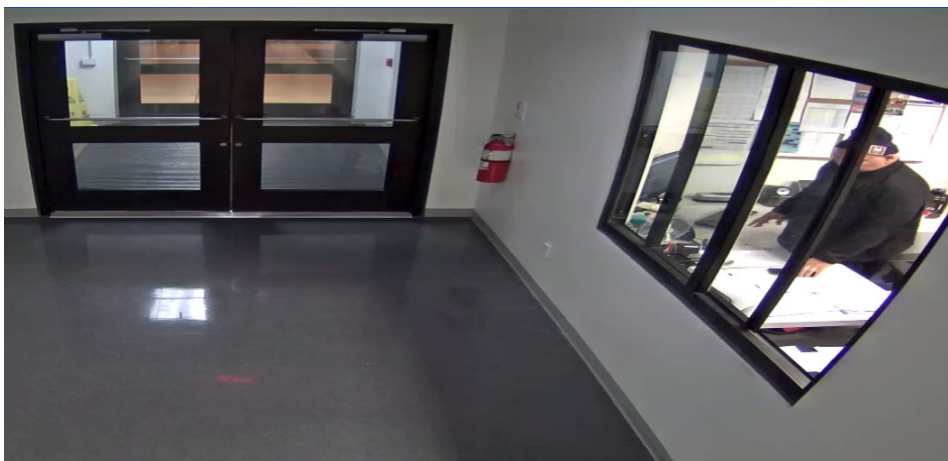


Image 1 – The Depot Clerk located in the office at Dulles Yard – Building J.

The Audio Recording System (ARS) playback revealed that at 01:58 hours, a Depot Clerk contacted a ROCC RTC and reported a burning smell in the ceiling inside Building J located within

the Dulles Rail Yard and a Train Operator notified the Interlocking Operator that Building J was being evacuated. At 01:59 hours, the ROCC RTC began to make notifications to the Assistant Operations Manager (AOM), the Rail Operations Information Center (ROIC) and MTPD. At 02:01 hours, the AOM contacted the LC-CFRS and reported an active fire alarm at Building J. LC-CFRS dispatched Engine 623 to Dulles Rail Yard. At 02:02 hours, MTPD Dispatch requested Units to respond to Dulles Yard.

Closed-Circuit Television (CCTV) revealed that at 02:00 hours, the Depot Clerk exited the building and appeared to have a conversation with others that were outside of the building. At 02:02 hours, the Depot Clerk re-entered the building and activated the fire alarm pull station.



Image 2 – The Depot Clerk activating the fire alarm pull station.

At 02:03 hours, an MTPD Unit notified the Security Operations Control Center (SOCC) that they were on site and would report to Building J.

At 02:04 hours, Cintas Fire protection contacted the Maintenance Operations Center (MOC) and reported the pull station was activated at Building J. At 02:06 hours, MTPD DVEU reported no smoke was observed.

At 02:08 hours, MOC dispatched the Office of Radio Communications (COMR). At 02:10 hours, Power personnel reported to MOC that they were on scene. At 02:12 hours, LC-CFRS arrived, silenced the alarm, canvassed the area and reported no sign of smoke or fire in Building J, then reset the fire alarm.

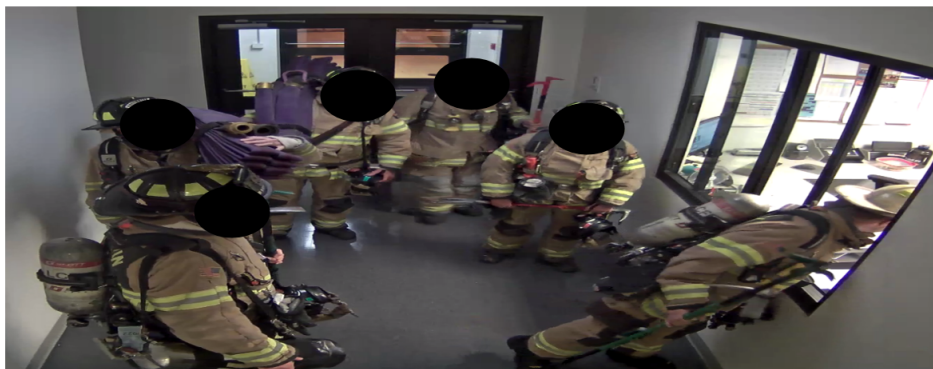


Image 3 – LC-CFRS canvassing the Depot Clerk's Office for signs of smoke.

COMR personnel arrived on scene and reported to MOC that the Depot Clerk initiated the pull station for a smell of smoke. The Depot Clerk reported that LC-CFRS personnel advised that a controlled brush fire from the Marine Corps Base near Quantico, VA was a possible cause of the smell of fire around Building J; however, that report was unconfirmed. Quantico, VA is approximately 40 miles south of Dulles Rail Yard

At 02:21 hours, LC-CFRS departed Dulles Yard. At 02:33 hours, MTPD reported Dulles Rail Yard was clear.

CCTV revealed that the Depot Clerk was sitting at a desk in the office performing their duties. The Depot Clerk stood up, then put on a hat and jacket, picked up a handheld radio, made a phone call, then walked out of the office camera view and then is seen walking through the entryway into another doorway of the building. Two additional WMATA personnel exited the building after the Depot Clerk. The Depot Clerk then re-entered the building through an alternate entrance, then pulled the fire alarm pull station. LC-CFRS arrived with MTPD and swept the building. The fire alarm strobe lights activated as designed. Other WMATA personnel arrived on the scene. LC-CFRS and MTPD departed the building. The Depot Clerk returned to the office after the All Clear was given.

Chronological Event Timeline

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

Time	Description
01:58:32 hours	<u>Depot Clerk</u> : Reported a burning smell and requested the Fire Department. <u>ROCC RTC</u> : Acknowledged. [Phone]
01:58:59 hours	<u>Train Operator</u> : Reported evacuating Building J. <u>Interlocking Operator</u> : Acknowledged. [N4-YD1]
01:59:05 hours	ROCC RTC notified the AOM. [Phone]
01:59:26 hours	ROCC RTC notified the ROIC. [Phone]
01:59:55 hours	ROCC RTC notified the MTPD. [Phone]
02:00:20 hours	The Depot Clerk exited the office and building. [CCTV]
02:01:30 hours	AOM contacted LC-CFRS to respond to Dulles Yard. [Phone]
02:02:26 hours	The Depot Clerk approached the fire alarm pull station, then activated the alarm. [CCTV]
02:02:43 hours	<u>MTPD Dispatch</u> : Requested Units to respond to Dulled Yard. [MTPD 1X]
02:03:25 hours	<u>MTPD Unit</u> : Reported on site. [SOCC]
02:04:25 hours	Cintas contacted MOC and reported the pull station was activated at Building J. [Phone]
02:06:19 hours	<u>MTPD Dispatch</u> : DVEU reported no smoke observed. [MTPD 1X]
02:08:22 hours	MOC dispatched COMR personnel. [Phone]
02:10:46 hours	Power personnel reported on scene to MOC. [Phone]
02:12:03 hours	<u>MTPD Unit</u> : Reported Fire Department on site and silenced the alarm. [MTPD 1X]
02:14:55 hours	COMR personnel reported on scene to MOC. [Phone]
02:21:39 hours	LC-CFRS departed Dulles Yard. [CCTV]
02:23:23 hours	<u>MTPD Unit</u> : Reported LC-CFRS canvassed the area, no sign of smoke or fire, the fire alarm was reset. [MTPD 1X]
02:33:05 hours	<u>MTPD Unit</u> : Reported Dulles Yard clear. [MTPD 1X]

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

Interview Findings

As part of the investigation launched into the event, SAFE interviewed one person. The interview identified the following key findings associated with this event. The results detailed below include reported information from involved personnel and may conflict with other data sources contained in the report.

Depot Clerk (informal interview)

- The Depot Clerk stated that they smelled smoke like something was burning and that the smell was coming through the vents. They contacted ROCC and were advised that the Power Department would respond.
- The Depot Clerk stated that they cleared the building and activated the fire alarm. The Power Department personnel arrived and then the Fire Department arrived.
- The Depot Clerk stated that they advised the emergency personnel that the smell was coming from the restroom area and it smelled like wires burning.
- The Depot Clerk stated that they did not observe any smoke.
- The Fire Department cleared the building and advised the Depot Clerk that there was a contained fire test being conducted at the Military Training Facility nearby, which may be the cause of the smoke smell.
- The Depot Clerk stated that the Power Department reported that they did not see anything unusual and everyone returned to the building.
- The Depot Clerk stated that the smell lingered for the rest of their shift, and the next day when they returned to duty, the smell was no longer there.

Weather

On March 21, 2023, at the time of the incident, NOAA recorded the temperature as 38° F, with passing clouds, Winds at 8 MPH and 60% humidity. Weather was not a contributing factor in this incident. (Weather source: NOAA – Location: Sterling, VA)

Related Rules and Procedures

MSRPH Section 4 – Safety Rules, Fire Protection Responsibilities



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK

B. TREATMENT OF INJURIES

- 4.4. Employees shall report all on-the-job injuries, no matter how minor, to their supervisor verbally and in writing as soon as possible, but no later than the completion of work on the date of the injury.
- 4.5. Employees shall ensure that they get proper attention for all injuries. Eye injuries shall be treated by a doctor or at the nearest hospital emergency ward. If a chemical substance enters the eyes, immediately flush with copious amounts of clean water for a minimum of 15 minutes and then immediately seek medical attention.

Employees requiring medical attention for any reason or for any person shall contact ROCC on ext. 1970 or the appropriate radio channel and provide the details of the incident. ROCC will contact and direct local emergency personnel to the scene.

C. FIRE PROTECTION RESPONSIBILITIES

- 4.6. Indications of fire observed on vehicles or Authority property must be reported immediately to the Train Operator, the nearest supervisor, or ROCC.
- 4.7. Employees shall submit a written report of all fires to the Department of Safety.
- 4.8. Employees shall be familiar with fire regulations and the locations and use of fire alarms and firefighting equipment in their work area and shall keep access to that equipment free at all times.
- 4.9. The use of any fire extinguisher must be reported to the employee's supervisor and documented on the appropriate form.
- 4.10. All employees shall report all empty or used fire extinguishers in facilities to PLNT and all empty fire extinguishers in trains or stations to ROCC and MOC, respectively, for replacement immediately after use.
- 4.11. Employees shall not smoke or introduce open flames or sparks into areas where the air contains flammable vapors or concentrations of explosive dust, where welding equipment is in use, where flammables or batteries are stored, or anywhere that NO SMOKING signs are posted.
 - 4.11.1. Transport of diesel fuel upon Class 1 vehicles is permitted only when the Class 1 vehicle is not carrying customers in revenue service and is authorized by ROCC and coordinated with MOC. Fuel must be in approved labeled containers no greater than 5 gallons in capacity, free from leaks and wiped dry of any over-spill prior to being loaded onto the vehicle. Containers being transported must be properly secured and attended at all times with no more than two containers per attendant and no more than four containers per car. The person attending fuel containers must establish communications with the operator of the vehicle and have ready access to a fully charged fire extinguisher of the type approved for the fuel. Filling, re-filling or transferring fuel from one container to another while aboard a Class 1 vehicle is strictly prohibited. Operators of vehicles transporting fuel shall obtain permission from ROCC and relay confirmation that the fuel containers are secure and attended, prior to moving.

Human Factors

Fatigue

Signs and Symptoms of Fatigue

The biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied for this event.

Fatigue Risk

The biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied for this event.

Post-Incident Toxicology Testing

Post-Incident Toxicology Testing was not conducted for this event.

Findings

- Depot Clerk requested the Fire Department due to a reported burning odor.
- Depot Clerk initiated the pull station alarm.
- First responders found no evidence of smoke or fire.
- No automated alarms activated based on the presence of smoke or heat.

Immediate Mitigation to Prevent Recurrence

- Building J was evacuated of all employees.
- MTPD was dispatched.
- LC-CFRS was dispatched.
- Fire Alarm was reset.

Probable Cause Statement

The probable cause of the Evacuation for Life Safety Reasons event at Dulles Rail Yard was the intentional action of an employee to activate a manual pull station alarm in response to an odor of smoke. No smoke or fire were found, and no automated alarms activated based on the presence of smoke or heat.

Recommended Corrective Actions

There are no Recommended Corrective Actions associated with this event.

Appendices

Appendix A – Maximo Report



Washington Metropolitan Area Transit Authority Maintenance and Material Management System Incident Details

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MX76PROD

Incident #: 8659768

Status: NEW

Incident Summary: SMOKE REPORTED Transportation building J

Incident Start: 03/21/23 02:15:00

Incident Details

Detail:

Asset:		Rail Line:		Line Delay:	0
Location:		Jurisdiction:		Passenger Delay:	0
Train ID:	2:15:00 AM	Injuries??:	N	Train / Bus Delay:	0
Direction:		#9#??:	N	Partial:	0
Report Location:	N99 Transportation building J	Mode of Operation:		Offload:	0
Station Location:	N99 DULLES YARD	# of Cars in Consist:		Late Dispatch:	0
Regional ID:		Originating OCC:	MOCC	No Dispatch:	0
Trouble Code:	SMKW SMOKE OBSERVED ON THE WAYSIDE	Created By:		Trips Lost:	0
Responsibility Code:	PWOC POWER OPERATIONS CENTER	Created Date:	03/21/23 02:21:24	Reroutes:	0
Mileage:		Status Date:	03/21/23 02:21:24	Abandoned:	0

Operator Miscellaneous

Operator:		Block #:		Route:		Road Call??:	N
Division:		Run:		Destination:		Change Off??:	N

WT_ticketprint.rptdesign

04/4/2023 16:17

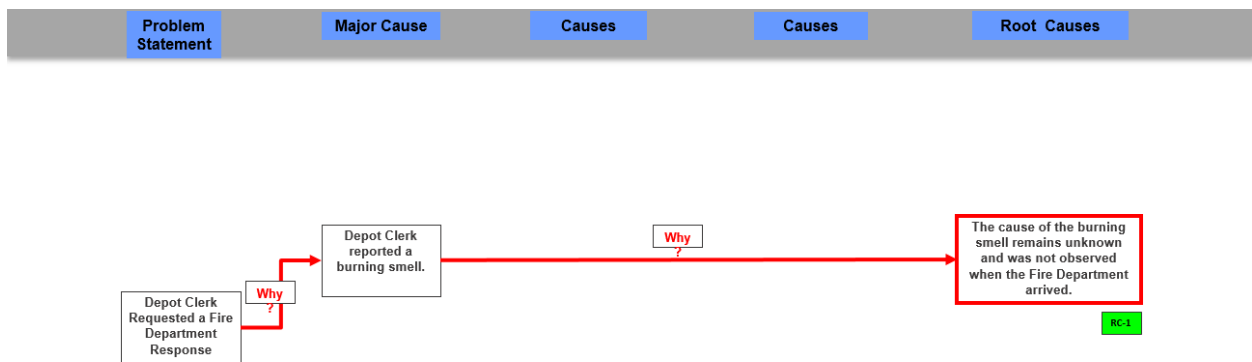
Document 1 – Maximo Incident Report No. 8659768

Incident Date: 03/21/2023 Time: 01:58 hours
Final Report – Evacuation for Life Safety Reasons
E23192

Drafted By: SAFE 707 – 05/05/2023
Reviewed By: SAFE 71 – 05/22/2023
Approved By: SAFE 71 – 05/22/2023

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Appendix B – Why-Tree Analysis



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Root Cause Analysis

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

