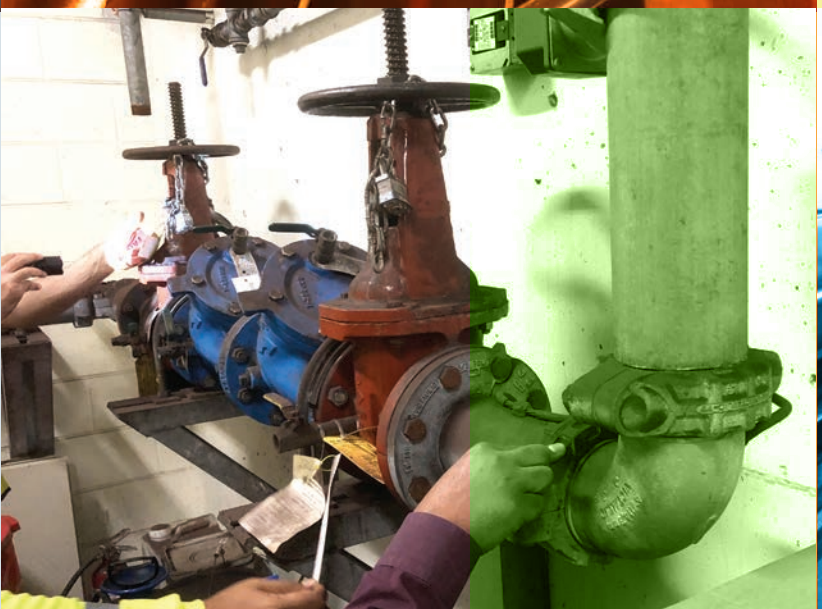
The Washington Metrorail Safety Commission

Safety Audit

of the Washington Metropolitan Area Transit Authority

Audit of Emergency Management and Life Safety Programs



Final Report:
January 29, 2025

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Prepared under the authority of the Washington Metrorail Safety Commission

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Executive Summary

The Washington Metrorail Safety Commission (WMSC) performed this audit of Washington Metropolitan Area Transit Authority (WMATA) Metrorail's Emergency Management and Life Safety Programs through in-depth interviews, site visits, and document and data reviews conducted in August and September 2024, with additional follow-up and document reviews in October 2024. The scope of this audit includes the assessment of all components of the as-designed/built rail or fixed-guideway system, system modifications, installed equipment, operational practices and procedures, maintenance, hazardous material events, and associated training for purposes of compliance with applicable procedures, regulations, and best practices related to emergency management and life safety (including relevant standards from the National Fire Protection Association and the Federal Emergency Management Agency, as applicable).

Life safety and emergency preparedness/response equipment includes, but is not limited to, access and egress routes, communication equipment, alarm systems, suppression systems, and ventilation systems. Maintaining these life-saving systems in a state of good repair is essential to preserving the safety of Metrorail riders, employees and contractors, and Metrorail facilities.

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In addition to the interviews, site visits, and document and data reviews conducted, this audit also reviewed closed corrective action plans from the WMSC's previous Emergency Management and Fire and Life Safety audit issued in February 2022, as well as other relevant corrective action plans, and investigation reports.

During the audit, when the WMSC identified safety concerns while conducting field observations, Metrorail was immediately informed of the issues as each was identified in the field. In many cases, the safety concerns were able to be corrected immediately. A full list of all such issues was also provided to Metrorail in writing on September 17, 2024. (See Appendix E of this report for the complete list of issues.)

The WMSC appreciates the cooperation of Metrorail personnel throughout the interviews and observations conducted for this audit including addressing the identified safety concerns.

This audit demonstrates that Metrorail has made systematic improvements since the prior WMSC Audit of Metrorail's Emergency Management and Fire and Life Safety Programs, which was conducted in 2021. Many of these items are highlighted in the Audit Work section of this report, noting positive practice improvements and improvements based upon WMSC and Metrorail corrective action plans.

This audit also identified critical areas where Metrorail is not following its procedures and requirements, is not addressing equipment issues and is not properly identifying and inspecting its life safety equipment.

This audit also identified critical areas where Metrorail is not following its procedures and requirements, is not addressing equipment issues and is not properly identifying and inspecting its life safety equipment. There are 5 findings that Metrorail is required to address through the corrective action process. The findings identified are:

- **Finding 1: Metrorail does not have a reliable communication system for operations or emergencies.**
- **Finding 2: Metrorail Emergency Trip Stations (ETS) located throughout the system are not treated as fire life safety assets.**
- **Finding 3: Metrorail fire and life safety inspections do not identify and resolve deficiencies with fire life safety equipment and assets within stations.**
- **Finding 4: Metrorail is using emergency radio operations channel 6 although the channel is not ready for use.**
- **Finding 5: Metrorail is not contacting jurisdictional emergency services immediately upon identification of fire and smoke on the Metrorail system.**

Full details on each finding are stated in the Findings and Minimum Corrective Actions section of this report. Metrorail is required to propose corrective action plans to address each finding no later than 30 days after the issuance of this report.

Background and Scope

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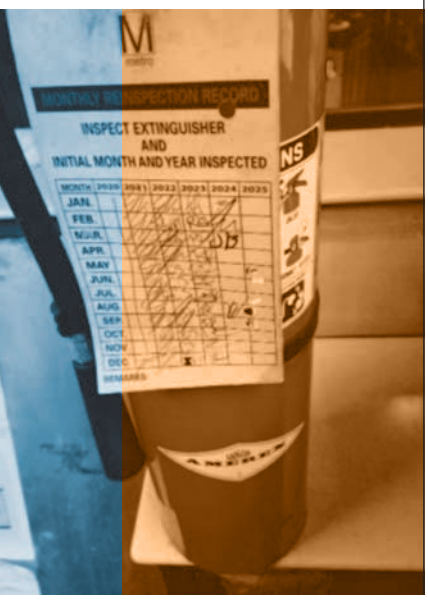
Metrorail's procedure 4121-3-02/01 defines fire life safety and emergency preparedness/response equipment.

This is the WMSC's second triennial audit of WMATA's Emergency Management and Life Safety programs. The first **Audit of Emergency Management and Fire and Life Safety Programs** was published on February 22, 2022 and the findings and corrective action plans from that audit are detailed in the Assessment of Previous Corrective Action Plans section.

This audit's objectives were stated in the WMSC's audit notification letter to WMATA (dated June 3, 2024). These objectives included the assessment of all components of the as-designed/built rail or fixed-guideway system, system modifications, installed equipment, operational practices and procedures, maintenance, hazardous material events, regulations, and best practices related to emergency management and life safety (including relevant standards from the National Fire Protection Association and the Federal Emergency Management Agency, as applicable).

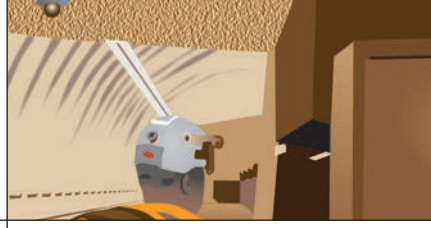
Metrorail's procedure 4121-3-02/01 defines fire life safety and emergency preparedness/response equipment as:

- Access and egress routes including stairs, hatches, tunnel knee-wall walkways, elevated guideway walkways, doors, hatches, gates, lighting, emergency exits, and signage.
- Communication equipment including Emergency Trip Stations (ETS), phones, public address systems, intercoms, and radios.
- Alarm systems including detectors, transmission equipment, lights, speakers, automatic activators for doors, gates, fans, and vent shutters
- Suppression systems including fire department connections, standpipe risers and connections, hose cabinets, and sprinklers.
- Ventilation systems including airshafts, fans, shutters, remote and local control panels.
- System tools and equipment that are maintained on the system or provided to emergency responders including fire extinguishers, automated external defibrillators, patient packaging and transport equipment, and energized power verification devices (including Warning Strobe and Alarm Devices).



The Federal Emergency Management Agency (FEMA) defines emergency management as "the managerial function charged with creating the framework within which communities reduce vulnerability to hazards and cope with disasters." (FEMA website, https://emilms.fema.gov/is_0230e/groups/999.html, visited November 26, 2024.)

The National Fire Protection Association (NFPA) defines Life Safety within NFPA Standard 101 as "the construction, protection, and occupancy features necessary to minimize danger to life from the effects of fire, including smoke, heat, and toxic gases created during a fire. Life safety programs should establish the minimum criteria for the design of egress facilities so as to allow prompt escape of occupants from buildings or, where desirable, into safe areas within buildings. It also addresses protective features and systems, building services, operating features, maintenance activities, and other provisions in recognition of the fact that achieving an acceptable degree of life safety depends on additional safeguards."



The WMSC conducted audit interviews and observations in September and October of 2024 and received follow-up documentation through November 2024. The WMSC conducted the following activities:

- Obtained and reviewed the most up-to-date plans, policies, and procedures covering Emergency Management and Life Safety issues and assets.
- Conducted an entrance conference prior to onsite activities to outline the audit process and schedule.
- Conducted interviews of personnel from the Department of Safety, the Office of Emergency Preparedness, Rail Transportation, Facilities Maintenance, Power, Network Technical Operations, Metro Transit Police Department (MTPD) and Metro Integrated Command and Communications Center.
- Conducted station observations on September 11, 2024 at Rosslyn, Foggy Bottom–GWU, Farragut West, McPherson Sq, Benning Road, Capitol Heights, Wheaton, Forest Glen, Navy Yard-Ballpark, Anacostia, and Congress Heights Stations and on September 12, 2024 at Medical Center, Bethesda, Friendship Heights, Tenleytown-AU Stations.
- Conducted an observation of Emergency Trip Stations (ETS) on September 12, 2024, between West Falls Church and Dunn Loring Stations.
- Evaluated compliance with established plans and procedures, based upon the above sources of information.
- Conducted an exit conference to present preliminary findings, provide supporting information, and gather additional feedback and information from Metrorail personnel.

The audit was based on WMATA's Public Transportation Agency Safety Plan (PTASP) effective December 31, 2023 (Rev. 4.0), Metrorail's procedures and documentation, and other associated requirements. The specific elements of the Public Transportation Agency Safety Plan covered in this audit are listed in Appendix D.

The next sections present a general description of the program, a review of investigations and other oversight activities, review of previous corrective action plans required, and the WMSC's findings.

Metrorail's Emergency Management and Life Safety Programs

The Office of Emergency Preparedness (OEP) and the broader Department of Safety lead the implementation of WMATA's Safety Management System (SMS) across WMATA. Although SMS principles state that everyone at WMATA is responsible for and plays a role in SMS, it is the Office of Emergency Preparedness (OEP) that leads WMATA's emergency preparation, response, recovery, and mitigation roles within WMATA's Safety Management System (SMS). The Office of Emergency Preparedness is a part of the Office of Safety and Readiness.

OEP is comprised of two groups: Response & Recovery and Prevention & Mitigation.

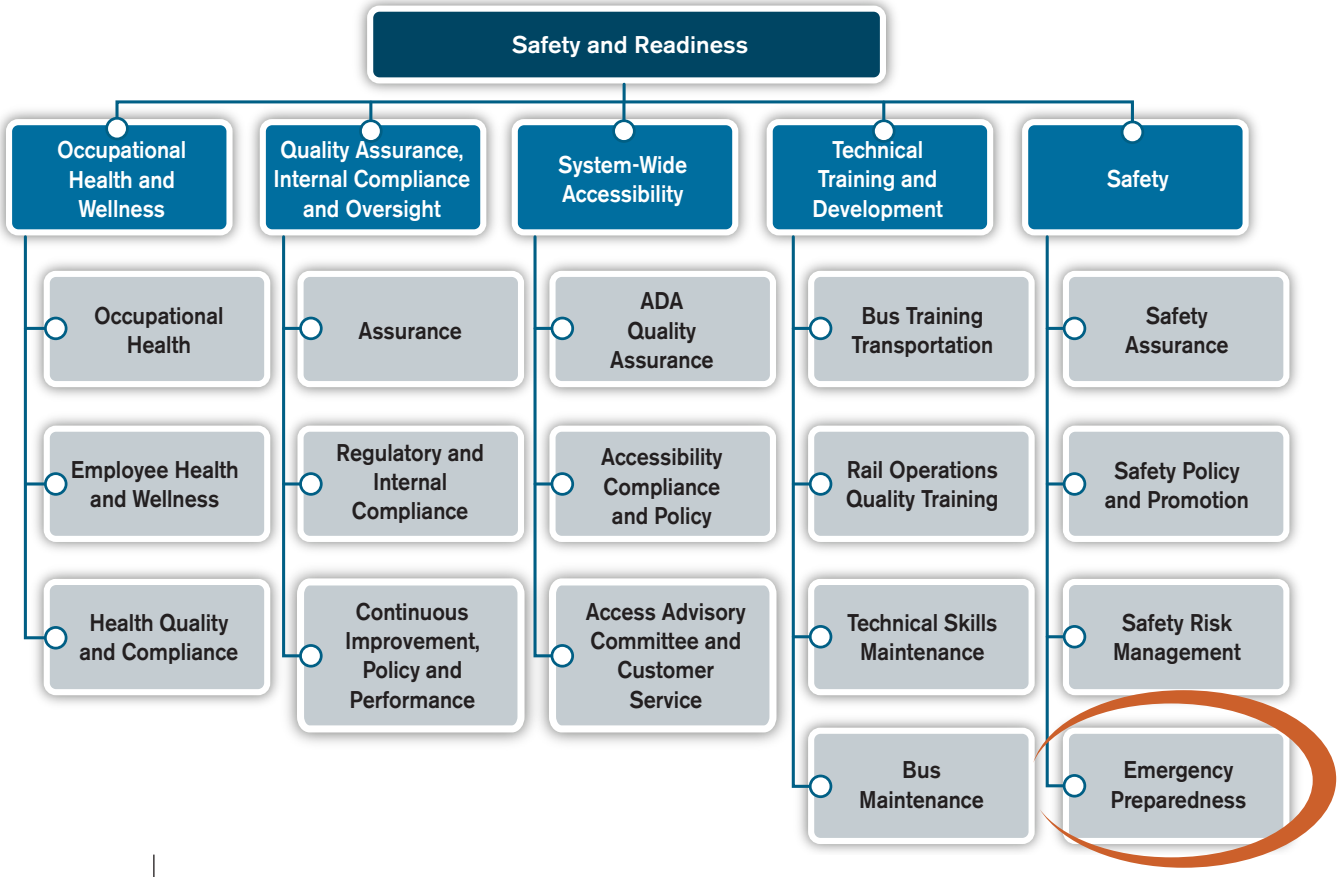
- The Response and Recovery branch is responsible for providing internal and external incident management and Metrorail incident management training. OEP is responsible for providing incident management support and expertise for Metrorail.

The Office of Emergency Preparedness (OEP) that leads WMATA's emergency preparation, response, recovery, and mitigation roles within WMATA's Safety Management System (SMS).

- Prevention and Mitigation is responsible for coordinating and improving the Fire Life Safety inspection program in addition to leading the after action review process, facilitating corrective actions related to the prevention and mitigation of incidents. The Fire Marshal, who reports directly to the OEP Senior Director, is responsible for providing support in response to fire life safety incidents, and code compliance. The Fire Marshal is also tasked with delivering fire life safety training for Metrorail staff and assisting Safety investigators with fire-related investigations.

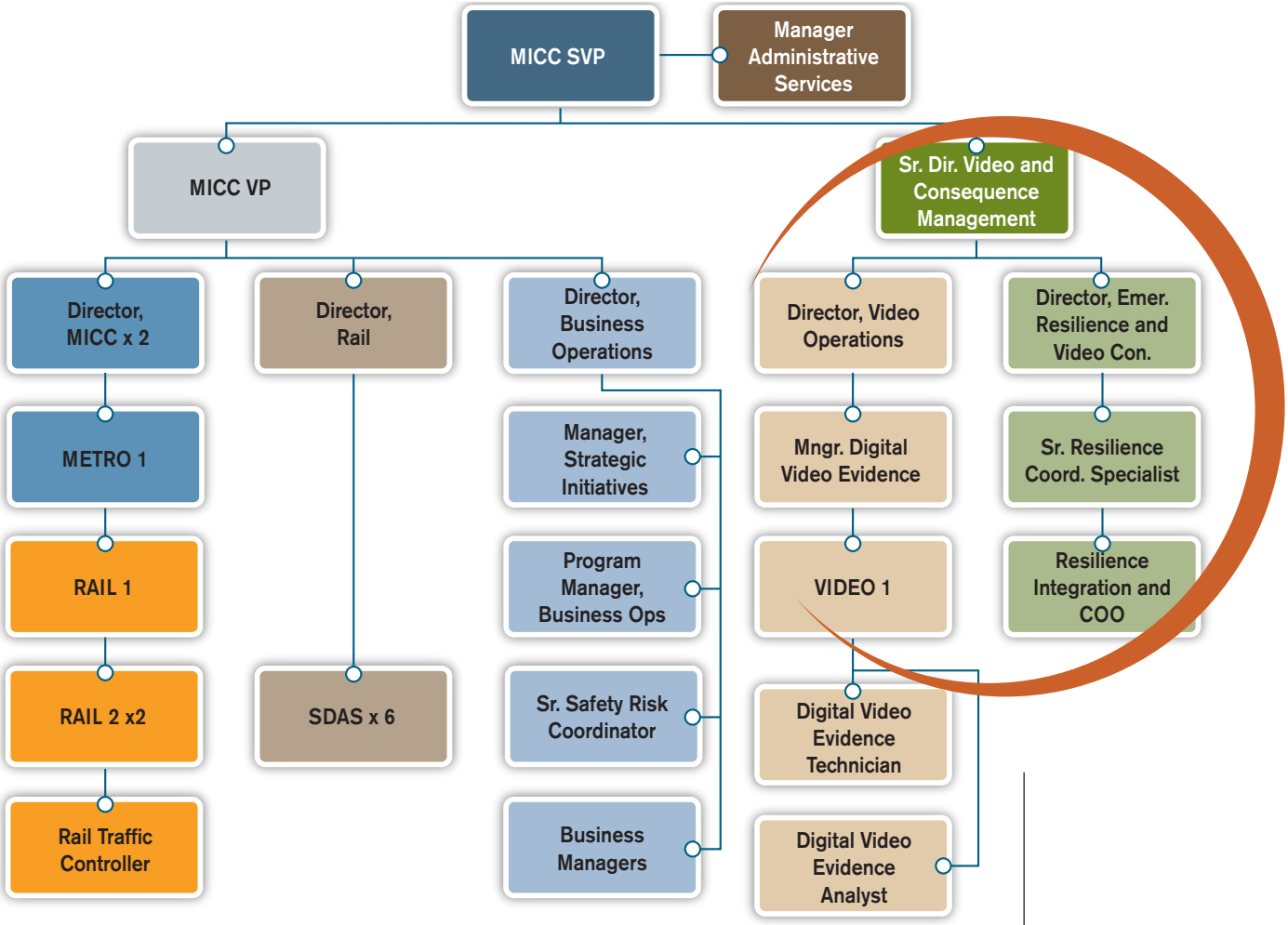
Other departments share the responsibility for inspection and maintenance of life safety assets including Facilities Maintenance, which is responsible for the day-to-day inspection and maintenance of many of Metrorail's life safety assets. Network Technical Operations and the Office of Power also share responsibilities for inspection and repair of the Emergency Trip Stations (ETS).

Current Organizational Structure



Although this audit primarily focused on the Office of Emergency Preparedness personnel (circled above), the audit also involved other functional areas to the extent that there was any responsibility for life safety asset inspection, preventive maintenance, and corrective maintenance (such as Facilities Maintenance and the Office of Power). Another department included in this audit was the Planning and Exercising team which was previously part of Emergency Preparedness but is now under the separate control center organizational structure in the Video and Consequence Management Section, as depicted on the following page.

MICC Organizational Chart – Rail Operations



Internal Metrorail Reviews and iCAPAs

Office of Emergency Preparedness Internal Safety Review

The most recent Internal Safety Review (ISR) Report of Metrorail's Office of Emergency Preparedness (OEP) was published on January 23, 2024. The scope of this internal safety review was to internally validate OEP's policies, procedures, processes, and functions of leading and coordinating the emergency management cycle across Metro in accordance with the PTASP, the Washington Metrorail Safety Commission (WMSC) Program Standard, WMATA Quality Management System Plan (QMSP), and other applicable federal and regional regulatory requirements.

Metrorail's department of Quality Assurance, Internal Compliance & Oversight (Quality) conducted this ISR through document reviews, field assessments, personnel interviews, and data analyses. Areas of focus included but were not limited to:

- Approved safety policies, procedures, and rules,
- Emergency preparedness and response plan,

- Training and certifications,
- Safety compliance and inspections,
- Safety performance reports,
- Safety communications,
- Identifying and mitigating hazards, and
- Promoting safety.

This internal safety review noted six Areas for Improvement, which are required to be addressed through internal corrective action plans (iCAPAs):

➤ **QICO-OEP-23-01:** *Align the IMF standard with existing authority policies and procedures and incorporate adequate detail in IMF standard process steps to accomplish procedures. (Overall Risk – 2C)*

Quality noted that as Metrorail had changed its Incident Management Framework, other standard operating procedures (SOPs) and documents needed to be revised to reflect those changes. An example of such was procedure 1002-1-01/00, "The Emergency Operations Plan," revised 11/01/2022 has not been revised or rescinded to reflect the incident management structure, roles, and responsibilities defined in the "Incident Management Standard," procedure 1003-2-01/01, revised 07/10/2023. Quality identified a total of 76 documents "in need of modification."

➤ **QICO-OEP-23-02:** *Align affected documents with the IMF standard. (Overall Risk – 2C)*

Quality noted "Incomplete alignment of governing documentation and lack of unified communication impacted incident management implementation and data capture process." Citing After Action Report (AAR) #2023-13 that noted "confusion over which incident management procedure was to be utilized during the incident. The AAR indicates SOP 1A, the incident command procedure superseded by IMF, was declared at the onset of the incident and the train operator was initially designated as the "on scene commander," a role not identified in the IMF procedure. The AAR did not identify reconciliation of conflicting procedures as a recommended mitigation."

➤ **QICO-OEP-23-03:** *Develop comprehensive process steps for achieving established fire life safety procedures and adhere to existing fire life safety standard operating procedures. (Overall Risk – 3C)*

Quality identified:

» 73% (11 of 15) of safety inspections were listed as "in progress" and did not indicate a date for future re-inspection.

» 100% (15 of 15) of safety inspections had no risk rating assigned for noted safety deficiencies.

» 100% (15 of 15) of safety inspections had no point of contact listed in the comments section to link with each safety deficiency.

This internal safety review noted six Areas for Improvement, which are required to be addressed through internal corrective action plans (iCAPAs).

- 13% (2 of 15) safety inspections did not list a Maximo work order number, which is required for each identified safety deficiency.
- Quality was unable to identify a documented process for capturing the communication of safety deficiencies to the appropriate department for remediation.
- "Quality was not able to determine the process for record-keeping in the event a safety deficiency is not satisfactorily resolved during [the] re-inspection [process.]"

➤ **QICO-OEP-23-04:** *Develop a training matrix in compliance with PTASP and SAFE standards and enforce training attendance per requirements. (Overall Risk – 3C)*

The Office of Emergency Preparedness Response and Recovery Training Matrix/Tracker did not clearly identify the required training elements. Quality reviewed training transcripts for 13 Response and Recovery employees. Overall compliance was found to be 37%, based on a comparison between the reviewed training matrix and transcripts, as of September 6, 2023. Also, "Quality could not validate data with corresponding training transcripts housed in WMATA's [Enterprise Learning Management] ELM system."

➤ **QICO-OEP-23-05:** *Enforce compliance with established safety standards and other requirements set forth in training curricula. (Overall Risk – 3C)*

"Quality observed instructors from OEP's Response and Recovery branch deliver a *"Railcar Lifting for Fire Service"* training course to Montgomery County Fire and Rescue personnel at the Shady Grove Rail Yard and Montgomery County Public Safety Training Academy on July 26, 2023." During that observation, Quality identified:

- "Instructors did not verify proper eye protection and safety footwear were consistently utilized by participants as required in "Railcar Lifting for Fire Service Instructor Guide…"
- "During a demonstration of Warning Strobe Alarm Device (WSAD) and Hot Stick utilization, the instructor did not provide or demonstrate proper use of high-voltage electrical safety gloves."
- "A Skills Checklist was not completed during the course."

➤ **QICO-OEP-23-06:** *Review, update, and develop departmental procedures and governing documents with relevant safety and quality information. (Overall Risk – 3C)*

Metrorail procedure 0010-3-01/01 SAFE Document Control Process Rev. Jul. 15, 2022, section 6.7.2 states, "All SAFE Controlled Documents shall be named using the following convention: Function Designation Number–Document Level–Document Sequence-Unique Number/Document Revision Number, where Function Designation Number is defined by the SAFE Numbering Index Standard."

For 9 submitted "job aids related to roles and responsibilities of incident response personnel" there were no "document number, revision number, date, or proper approval for the documents." These documents included playbooks for incident commander, initial responder, and roadway worker in-charge.

Facilities Fire/Life-Safety Internal Safety Review

The most recent Internal Safety Review Report for Metrorail's Facilities Fire/Life-Safety was published on June 24, 2024. The scope of this internal safety review included:

- Fire/Life-Safety (FLS) assets, "comprised of various components that are designed to detect, signal, suppress, or mitigate fire emergencies."
- National Fire Protection Association (NFPA) procedures.
  - NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems (2017 Edition).
  - NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems (2018 Edition).
- Department of Facilities processes for the maintenance and inspection of the FLS systems which include:
  - Standard Operating Procedures.
  - Work Instructions.
  - Manuals.
- Preventive Maintenance (PM) (Quarterly, Semi-Annual, Annual, and Five (5) Year cycle) and routine Corrective Maintenance (CM).

This internal safety review noted seven Areas for Improvement, which were required to be addressed through internal corrective action plans (iCAPAs):

This internal safety review noted seven Areas for Improvement, which were required to be addressed through internal corrective action plans (iCAPAs).

- **QICO-I-FFLS-24-01:** *Incorporate requirements of Confined Space Entry Program in departmental procedures, enforce and monitor compliance to safety protocols inclusive to the use of safety equipment, complete required training, and perform atmospheric testing during confined space activities. (Overall Risk – 2C)*

  Metrorail personnel found during a field assessment of a preventive maintenance inspection at a drainage pumping station dry well that its personnel did not complete the required atmospheric testing monitor, did not complete an air-monitoring log, and the authorized entrant was not monitored by an attendant. Both the authorized entrant and the monitoring attendant are required to complete the annual confined space refresher course but neither individual had completed the required refresher training.

- **QICO-I-FFLS-24-02:** *Update and reestablish Preventive Maintenance Manuals to include inspection, testing, maintenance, and acceptance criteria for Fire/Life Safety assets. (Overall Risk – 2C)*

Quality identified an absence of documented preventive maintenance inspection work instructions for Sprinkler Systems, Wet Standpipes, Deluge Systems, and FM200 Systems–all of which had been rescinded and needed to be re-established. FM200 is a "clean agent fire suppressant used to extinguish fires in occupied areas." Each of the rescinded preventive maintenance inspections had originally been developed as part of Federal Transit Administration corrective action plan R-4-27-a. (Documented maintenance procedures and standard operating procedures are not implemented as required.)

➤ **QICO-I-FFLS-24-03:** *Facilities Maintenance must assess and address WO 17550064. (Overall Risk – 2D)*

Quality performed Maximo data analysis and conducted a field assessment on March 18, 2024 at Branch Avenue Yard that identified the following:

- The main FM200 fire suppression tank was empty during the FM200 preventive maintenance inspection.
- The system was switched to the "reserve" tank, which was fully pressurized to ensure operation.
- A Maximo Work Order (WO# 17550064) to replace the empty FM200 fire suppression tank was created on December 15, 2022.
- The tank was discharged during a Communications and Signaling test of the fire alarm system, and the WO has been in "In Progress" status since December 27, 2022.

➤ **QICO-I-FFLS-24-04:** *Personnel must complete required training. (Overall Risk – 3C)*

Quality reviewed the Facilities Maintenance Training Matrix and training records for the Office of Building Maintenance and Support Shops' Fire Equipment Technicians and the Office of Equipment Maintenance's General Equipment Mechanics who inspect and maintain FLS assets and identified that personnel were not completing all required training applicable to their positions. (Compliance rates reproduced below.)

Fire Equipment Technician	
Training Class	Compliance Rate
RWP	100%
Confined Space Initial	100%
Confined Space Refresher	22%
Fire Extinguisher	89%
Forklift Operator	56%
Bloodborne Pathogens	22%
Man Lift	0%
Forklift Operator Refresher	0%
Total number of employees Sampled	9

General Equipment Mechanics	
Training Class	Compliance Rate
RWP	100%
Confined Space Initial	100%
Confined Space Refresher	63%
Bloodborne Pathogens	96%
Fire Extinguisher	76%
Forklift Operator	70%
Lockout/Tagout	34%
Hot Work Familiarization	80%
Forklift Refresher	24%
Man Lift	14%
Total number of employees Sampled	50

The WMSC conducted an entrance conference on August 26, 2024 and conducted site visits and extensive interviews with Metrorail personnel in August and September 2024.

- **QICO-I-FFLS-24-05**: *Facilities Maintenance must review and update outdated documents that are required to perform daily tasks. (Overall Risk – 3C)*

  Quality noted that the Facilities Maintenance procedure 109-02 Document Control and Record Retention (Revision 03, 09/09/2022), Section 6.1.2.3 states "All documents are reviewed every two years to assess their relevance and effectiveness. Quality reviewed 31 documents of the assessed seven (7) FLS assets and identified 28 documents as past due for review."

- **QICO-I-FFLS-24-06:** *Facilities Maintenance must perform the required monthly Quality Control checks. (Overall Risk – 3C)*

  Quality noted that the Facilities Work Instruction, PLNT-WI-209-18 *Documenting Quality Control,* Revision 2 (12/09/2022) Section 5.4, states that "PLNT Supervisors will perform a minimum of two Quality Control (QC) audits/inspections of completed PM or CM work orders per week. The QC inspections will be documented in Maximo; PM QC inspections will also be documented on the paper checklists." Of note, "During personnel interviews, Quality was informed that the Office of Building Maintenance and Support Shop does not perform QC checks on its FFLS [facilities fire life safety] assets for either CM or PM."

- **QICO-I-FFLS-24-07:** *Facilities Maintenance must replace or recalibrate outdated gauges on their FLS Systems. (Overall Risk – 3C)*

  Quality noted that "Properly calibrated pressure gauges ensure accurate readings and maintain the reliability of the wet sprinklers and therefore safeguards assets and protects lives." According to NFPA 25 Section 13.2.7.2, "Gauges shall be replaced every 5 years or tested every 5 years by comparison with a calibrated gauge." Quality performed a field assessment at Shady Grove Yard and identified that "All 11 pressure gauges were past due for calibration."

Audit Work

The WMSC received initial documents related to this audit from Metrorail in June 2024, made subsequent document requests, and reviewed the documents provided by Metrorail throughout the course of this audit. The WMSC conducted an entrance conference on August 26, 2024 and conducted site visits and extensive interviews with Metrorail personnel in August and September 2024. The WMSC held an exit conference with Metrorail on October 16, 2024 and reviewed additional documents provided by Metrorail into November 2024.

Lists of documents reviewed, site visit locations, and personnel interviewed for this audit are provided in the appendices.

The WMSC later provided a draft of this report to Metrorail for technical review and incorporated any Metrorail comments or technical corrections as appropriate as called for in the Program Standard (Revision 7.1 effective November 15, 2024).

Assessment of Previous Corrective Action Plans

On February 22, 2022, the Washington Metrorail Safety Commission issued its first audit report of WMATA's Emergency Management and Fire and Life Safety programs. That audit resulted in 14 findings and 5 recommendations. Below is a summary of each finding or recommendation from that audit and the status of the associated corrective action plans developed by Metrorail to address them.

C-0162 (Open)

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 is in progress of implementation of the National Incident Management System. In interviews for this audit there was obvious progress towards a system that is fully compliant with National Incident Management System requirements. Personnel interviews and records provided to the WMSC indicated that Metrorail is in the process of reviewing its system and considering possible improvements based on safety events. This is positive and goes beyond the corrective action plan requirements.

C-0163 (Closed 11/29/2023)

Metrorail created and implemented an "Incident Management Official" (IMO) position without documented training, responsibilities, communication or coordination, and without adequate staffing to ensure other emergency management and preparedness activities were not interrupted.

The position "Incident Management Official" was renamed to the "Mission Assurance Coordinator." Later these duties were transferred to other positions such as the safety information officer within the control center. Safety certification documentation for the removal of this position was provided as part of this audit, which described the distribution of the duties of this position within the control center.

C-0164 (Closed 7/30/2024)

MTPD personnel routinely enter the roadway despite not having roadway worker protection (RWP) qualifications required by Metrorail rules and procedures, exposing themselves and others to the risk of serious injury or death.

Metro Transit Police Department (MTPD) created a roadway worker protection (RWP) procedure that details how Metrorail would ensure consistency across standard RWP training and MTPD's in-service RWP training for all personnel. All MTPD personnel now receive annual RWP training as part of their annual in-service training. The WMSC reviewed

To resolve this finding, Metrorail staff, with consultation by the Metropolitan Washington Council of Governments, created 911 phone scripts to help ensure that sufficient information conveyed to jurisdictional emergency services.

the updated procedure, training materials, and certification records for MTPD personnel. MTPD personnel interviewed during this audit also confirmed that this training is now occurring annually.

C-0165 (Closed 3/21/2024)

MTPD general orders do not reflect current operational realities and procedures, and areas for improvement from prior events are not effectively communicated to frontline MTPD personnel.

Metrorail reviewed and updated their MTPD general orders to reflect current realities, and created procedures to ensure these documents are regularly reviewed and updated moving forward. Metrorail also created procedures to ensure lessons learned from after action reports are communicated to MTPD staff to benefit from knowledge gained.

C-0166 (Closed 6/26/2024)

Metrorail's calls to public safety answering points (911 call centers) are inconsistent, incomplete and contribute to delayed or ineffective emergency response.

To resolve this finding, Metrorail staff, with consultation by the Metropolitan Washington Council of Governments, created 911 phone scripts to help ensure that sufficient information conveyed to jurisdictional emergency services. There is also recurring training on these communications requirements by Metro Transit Police Department (MTPD) and control center staff.

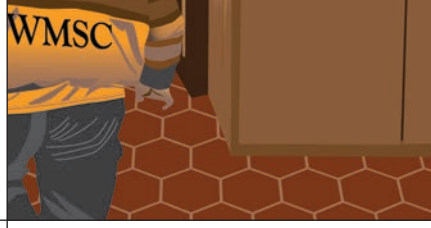
C-0167 (Open)

Metrorail has not clearly defined and communicated the authority and duties of its Fire Marshal and any other fire prevention roles or positions, and does not have effective continuity plans in the event the Fire Marshal is unavailable.

At the time of this audit, C-0167 remained open and in progress. The Office of Emergency Preparedness continues to submit reports generated from their Inspection Tracker Tool in accordance with CAP requirements. These inspections are one duty of the Fire Marshal and submission of reports from this tool demonstrate the process of tracking deficiencies identified in Fire Life Safety inspections. Submissions to the WMSC include photographic evidence and information on corresponding work order numbers, which is made accessible to relevant departments for coordination including the facilities department. This tool also includes preventive maintenance reports. Completion is expected in April 2025.

C-0168 (Open)

Metrorail does not ensure that experts in fire and life safety are included in and have a documented role in Metrorail project development, planning, review, and approvals, which contributes to hazards being introduced into the Metrorail system or hazards being allowed to continue to exist without adequate mitigation.



To address this finding, the Office of Safety developed a procedure and process that required the appropriate fire life safety experts to be engaged in project identification, and in the development, planning, review, and approvals of each project from development and implementation through completion. As part of this audit, WMSC personnel discussed with the inspection personnel from the Office of the Fire Marshal about their role in reviewing projects for hazards and code compliance in the planning phases.

Metrorail submitted a closure request for C-0168 in December 2024, which the WMSC is reviewing.

C-0169 (Closed 6/29/2024)

There is inadequate coordination among organizational units charged with developing, inspecting and maintaining critical fire and life safety assets, and there is no unified process to identify, prioritize and address fire and life safety risks.

This CAP was closed based on progress made and demonstrated through the fire life safety asset management dashboard and the implemented process. However, this audit identified gaps that must be addressed regarding the identification and prioritization of fire life safety assets. There are two findings related to this CAP. (See Findings 2 and 3.)

C-0170 (Open)

Metrorail does not routinely conduct hazard assessments to evaluate and prioritize fire and life safety and emergency management issues. Further, Metrorail has not established a fire and life safety and emergency management hazard identification, tracking and open item resolution process for prioritizing and implementing safety improvements.

Metrorail developed new procedures for the inspection process for fire life safety (FLS) assets. This process will be integrated with maintenance departments who are responsible for the FLS assets. Metrorail also developed an inspection program tool/dashboard which includes the status of findings, work orders tracking and open items through resolution. A full inventory was done for all FLS assets to ensure all have assignment to be addressed for inspection and maintenance.

At the time of this audit, C-0170 remained open and in progress. Completion is expected in April 2025. Additional issues related to these assets were identified during this current audit. (See Finding 3.)

This CAP was closed based on progress made and demonstrated through the fire life safety asset management dashboard and the implemented process. However, this audit identified gaps that must be addressed regarding the identification and prioritization of fire life safety assets.

C-0171 (Closed 12/20/2024)

Emergency equipment in station medical cabinets is expired and covered in dirt. There is no inspection procedure or responsible party assigned to inspect and maintain this safety equipment.

Metrorail contracted the inspection and cleaning of the safety equipment within the station medical cabinets. The contractor tested the dust in the cabinets, which resulted in the discovery of lead levels in excess of the Occupational Safety and Health Administration's

The equipment that was contained in these cabinets has been moved to the fire equipment cabinet on the mezzanine level of each station. During each visit for this audit, the equipment was checked and was in good order.

(OSHA) acceptable levels. As a result, special lead abatement was required for each of the cabinets that delayed this CAP's implementation. The discovery of lead in these cabinets led to Metrorail's system wide investigation into lead and other potential environmental occupational safety contaminants, which contributed to Metrorail's current and ongoing legal challenge of the WMSC's oversight of occupational safety.

The equipment that was contained in these cabinets has been moved to the fire equipment cabinet on the mezzanine level of each station. During each visit for this audit, the equipment was checked and was in good order.

C-0172 (Closed 5/19/2023)

Metrorail does not conduct systematic underground inspections to ensure safe egress and fire and life safety response and has set minimum tunnel emergency lighting levels that are not compliant with NFPA minimum standards.

Plant Maintenance personnel worked with the Office of Emergency Preparedness to update its inspection criteria and fire life safety requirements as per National Fire Protection Association (NFPA) standards that are applicable to its Emergency Egress Inspection Reports, and Emergency Egress Shaft Inspection reports. The WMSC reviewed the Egress and Shaft Inspection procedures and reports from January 2023 through September 2024. These systematic underground inspections are occurring, but some issues are not being identified, and other issues that are identified are not being adequately resolved that related to the egress shaft inspections. (See Finding 3.)

C-0173 (Open)

The exit stairwell from Rosslyn Station is not protected from obstructions, which creates a risk that the hatch will not be able to be opened in an emergency, trapping customers inside.

Metrorail continues to work with local jurisdictions to address egress routes which can be obstructed. This work is ongoing and will continue into 2026. The WMSC met with the project stakeholders for this work during the audit to review the ongoing works and possible updated requirements from the local authorities having jurisdiction.

C-0174 (Closed 4/3/2024)

Metrorail does not consistently inspect and maintain current certification status of all fire extinguishers, particularly those on the roadway.

Metrorail removed the fire extinguishers on the roadway that were the focus of C-0174 and instead mitigated this issue by requiring work crews to have their own fire extinguishers. Train operators maintain a fire extinguisher within the lead car of each trainset.

C-0175 (Closed 4/3/2024)

Metrorail does not consistently perform or document all elements of its Fire & Intrusion Alarm System Inspection Preventive Maintenance Instructions.

Metrorail reviewed its procedures regarding preventive maintenance instructions for its Fire & Intrusion Alarm systems to better outline and establish the process to coordinate with supporting offices on planned maintenance activities. Training was provided to personnel and then one year's worth of records were submitted for review showing that the new process and training were consistently addressing the requirements of the preventive maintenance instruction.

C-0176 (Closed 3/21/2024)

Metrorail has opportunities to improve and expand training and training coordination related to fire and life safety and emergency management.

C-0176 resulted in important updates to Metrorail's Incident Management Framework. The Office of Emergency Preparedness developed a new Incident Management training course, including curriculum and training. Training was then required of anyone who would serve or operate within incident command and specifically under a Unified Command with inter-agency partners. As highlighted by Finding 4 of this report, Metrorail has made progress with National Incident Management System (NIMS) and Incident Command System (ICS) compliance since the prior audit but there still remains some confusion on roles and responsibilities along with communications issues that must be addressed.

C-0176 resulted in important updates to Metrorail's Incident Management Framework.

C-0177 (Closed 4/3/2024)

MTPD does not have a useable incident checklist for emergencies.

Metro Transit Police Department (MTPD) developed a checklist for MTPD officers to use during emergency response in relation to the establishment and transfer of incident command in the Metrorail system. MTPD also developed a process to distribute the checklist to MTPD officers to use during emergencies and trained all active MTPD personnel.

C-0178 (Closed 7/30/2024)

Metrorail fire and life safety signage is not consistent throughout the system.

To address this, Metrorail reviewed and updated the Metrorail Systems Signage Design Manual. Metrorail then inspected its signage, including facilities addresses and access points. Improved signage was observed during this audit and this is noted within the positive practice improvements section.

Improved signage was observed during this audit and this is noted within the positive practice improvements section.

Metrorail continues to experience radio communication issues throughout the system.

C-0179 (Closed 6/30/2023)

Metrorail's organizational structure contributes to mismatches between fire and life safety and emergency management personnel and their responsibilities.

Metrorail conducted workload assessments to determine Fire and Life Safety responsibilities and appropriate staffing. Based on the workload Assessments, Metrorail defined the criteria, roles and responsibilities for Metrorail's Emergency Fire and Life Safety functions within several procedures including the Safety Inspection procedure (4121-03-02/01), the Fire Marshal Continuity procedure (4900-3-03/00), the Portable Fire Extinguishers procedure (4900-3-01/00), and the Safety Re-inspections Process Work Instruction (4121-4-04/00).

C-0180 (Closed 6/1/2023)

Metrorail does not assess and communicate radio system outages to MTPD officers.

Metrorail created a documented process for resolving system-related outages, including identification and prioritization based on standardized hazard risk rankings. MTPD developed a process for notifying frontline MTPD personnel and management of Metrorail radio dead spots/outages. Metrorail continues to experience radio communication issues throughout the system. (See Finding 1.)

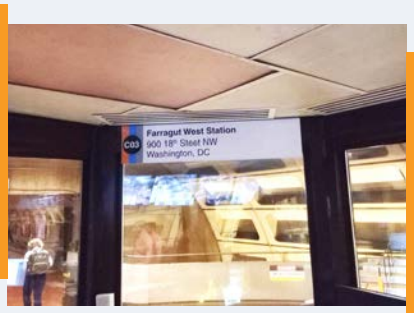
The WMSC continues to monitor Metrorail's implementation and effectiveness of corrective action plans through our robust oversight program, which includes inspections such as record reviews.

What the **WMSC** Found

What the **WMSC** Found

After action reports for events and the processes surrounding their creation have been fully implemented since the completion of C-0165 and have resulted in better coordination with jurisdictional partners.

Positive Practices



This audit also identified several positive practices, or success stories, some of which came about as a direct result of the WMSC's oversight. However, all of the positive practices detailed below are the result of Metrorail's own work. The WMSC encourages Metrorail to continue these positive practices.

Familiarization Training with Jurisdictional Partners

Metrorail's ongoing work with jurisdictional partners was observed throughout the audit. Familiarization training with jurisdictions helps first responders gain familiarity with the Metrorail system, including the stations and other facilities that first responders would respond to during an emergency event. Metrorail invites the jurisdictions to Metrorail facilities for reviews, tours, full scale exercises, and training. Metrorail also visits each jurisdiction.

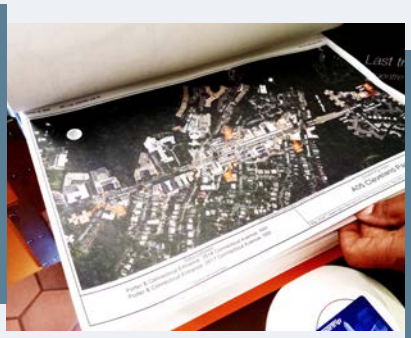
After Action Reports/Issue Tracking for Continuous Improvement

As part of corrective action plan C-0165, MTPD developed a documented process to compile and implement lessons learned from after action reports and incident debriefs relating to emergency response and management in the Metrorail system. This enables MTPD to communicate the lessons learned and also to track and mitigate issues.

After action reports for events and the processes surrounding their creation have been fully implemented since the completion of C-0165 and have resulted in better coordination with jurisdictional partners. All after action report items are now tracked and followed-up on while continuing to expand based on the latest events and exercises as evidenced by documents provided for this audit. Metrorail Office of Emergency Preparedness personnel are responsible for creating these reports and tracking the issues.

Master Location Repository / Signage Improvements

The finding that resulted in corrective action plan C-0178 noted that "Metrorail's fire and life safety signage is not consistent through the system." Metrorail created a master location repository to ensure accurate addresses for all stations and their respective entrances. Metrorail also coordinated with each jurisdiction to ensure that all jurisdictions had the same (and correct) addresses for Metrorail facilities and buildings. All stations now feature signs within each kiosk that provide the street address so that personnel, along with first responders, can quickly reference the correct address.



Updated / Digital Fire Maps

Documentation provided for this audit included newly revised Metrorail Emergency Response Maps (also known as "Fire Maps") of each station. WMSC personnel reviewed one example map of Wheaton Station with Office of Emergency Preparedness personnel present. The WMSC also reviewed digital copies of other station maps. The maps represent an

Metrorail personnel took action to address these violations where it was possible to do so while in the field.

improvement in clarity and organization. Metrorail reported that the maps were provided to jurisdictional partners—both physical copies and digital versions.

Station Manager Emergency Preparedness Training/Equipment

During each of this audit's 15 station visits, the WMSC visited the station kiosk to meet with station managers and discuss their equipment and emergency preparedness training. All station managers had proper equipment, including properly working automated external defibrillators (AED), communication equipment (bull horns, announcement system), and all station managers properly demonstrated equipment including the use of the communication equipment and operation/opening of all faregates during an emergency.

Immediate Actions and Mitigations During the Audit

During our audit, the WMSC immediately notified Metrorail personnel of all issues observed in the field. During our September 11 and 12 station visits, the WMSC identified a total of 58 items needing to be addressed. The full list of deficiencies can be found in Appendix E of this report.

The code violations included:

- 8 violations concerning Fire Extinguishers
- 12 violations concerning Fire Life Safety Equipment/Assets
- 16 violations concerning Egress/Areas of Rescue/Areas of Refuge
- 9 violations concerning Emergency Trip Stations

Metrorail personnel took action to address these violations where it was possible to do so while in the field. The WMSC provided Metrorail with a full list of these issues on September 17, 2024. Metrorail provided updates on September 24, 2024, and again on October 4, 2024, documenting how each item was being addressed. (See Appendix E of this report for the complete list of issues.)

The immediate efforts of Metrorail personnel to address these fire life safety assets are appreciated. These issues are discussed in more detail in Finding 3 on page 32.

Findings and **Minimum** Corrective Actions

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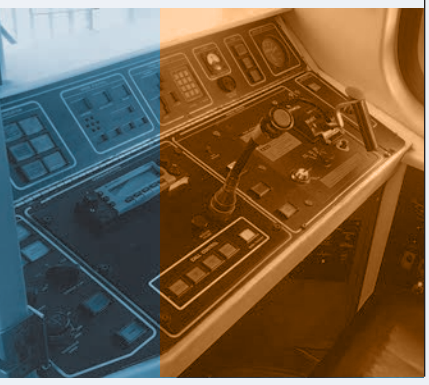
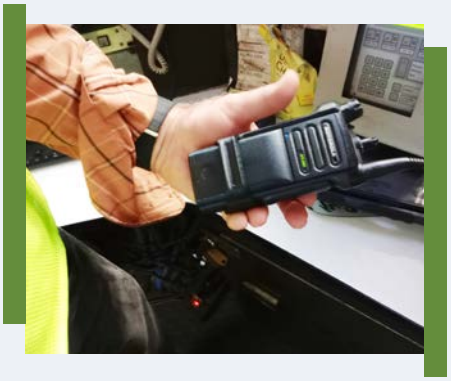
The inability for personnel in the field to communicate with personnel in the control center and for first responders to communicate with one another during emergencies poses a risk to the safety of all who interact with the Metrorail system.



Finding 1: Metrorail does not have a reliable communication system for operations or emergencies.



Intermittent radio communication deficiencies and known dead spots, where the ability to communicate by radio is non-existent at various points in the Metrorail system were identified by Metrorail personnel as a cause for concern throughout the audit.

This is further supported by WMSC safety event investigations. Radio communication issues have been identified in 60 WMSC safety event investigations that have been adopted as of the October 22, 2024 WMSC Public Meeting. (See Appendix F: Safety Event Investigations that Identified Radio Deficiencies.)

The inability for personnel in the field to communicate with personnel in the control center and for first responders to communicate with one another during emergencies poses a risk to the safety of all who interact with the Metrorail system.

Requirement:

Metrorail Operating Rulebook (MOR), dated March 1, 2024, rule 12.1.3 states "Employees shall use only WMATA-issued communications devices (radios, electronic, audio, or video devices), unless otherwise authorized or during an emergency while on duty[];" MOR rule 12.3.1 states "Employees shall report failure or improper operation of any communications equipment to their controlling agency or supervisor;" MOR rule 12.10.1.3 states "In the event of a life-threatening situation or a radio malfunction, cell phones may be used to contact the Rail Traffic Controller after the vehicle is stopped in a safe place."

The Emergency Operations Plan, Plan Number: 1002-1-01/00 (dated November 1, 2022) states in Section 13.4.1 "Internal communications are essential throughout an emergency incident or event. Sharing information to ensure employees can prepare and respond according to an accurate understanding of actual circumstances is vital to the success of the Authority's response and ongoing mission." And that "The radio system, a Fire and Intrusion alarm system, and closed-circuit television (CCTV) systems provide the necessary warning and communications modalities for security and property protection in the stations and elsewhere across the WMATA system." (Section 13.4.1.1. Internal Communications Critical Considerations.)

Nonconformance:

After action reports reviewed as part of this audit and WMSC investigation reports both support that the Metrorail radio system is an area of concern. In addition, WMSC personnel discussed the radio system with Metrorail personnel across various departments as part of this audit's interviews and during audit observations. Metrorail personnel were all aware of how to report a radio outage issue; however, in several instances, Metrorail personnel stated they did not report them as it was a "known" ongoing issue without resolution.

Interviews with Metrorail personnel responsible for emergency response within Metrorail's control center said that the radio communication issues were having a negative impact on their ability to properly respond to safety events.

Interviews with Metrorail personnel responsible for emergency response within Metrorail's control center said that the radio communication issues were having a negative impact on their ability to properly respond to safety events. These interviews explained that there are many "dead spots" where operators cannot communicate and must use either Emergency Trip Stations (ETS) or their own personal cell phones for communication in those locations. (See Finding 2 regarding Emergency Trip Stations.)

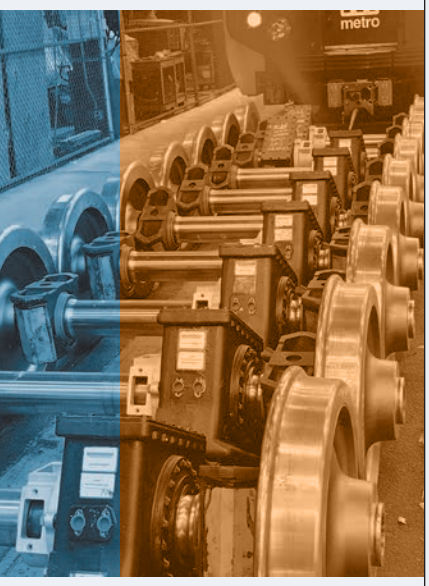
Another individual within the Office of Emergency Preparedness said that there are a lot of known radio issues throughout the Metrorail system and that they were currently working on an incomplete after action report in which a train operator tried to contact the control center via radio but could not communicate and had to exit the train and use an Emergency Trip Station telephone; however, exiting a train to walk along the roadway carries safety risks, and it would have been preferable for the train operator to remain on the train to better carry out operational decisions and troubleshooting that might impact rider/personnel safety.

There is an ongoing Metrorail radio project to upgrade the radio communication system (the WMATA 700 MHz Radio System project, contract FQ15000, also known as the Radio Replacement Project). An internal working group was reviewing radio difficulties and possible mitigations; however, the group was told to wait until 2026 for the current project to finish before radio communication would be improved. Relatedly, the WMSC has an open corrective action plan with Metrorail (C-0100), which requires "Metrorail to identify and resolve radio communications gaps in rail yards so that radio communication fully functions as intended within, to and from all yard and shop spaces where there is or may be rail vehicle traffic and must actively record and resolve additional reported radio communications gaps, going forward." Metrorail continues to implement C-0100, the planned completion date is October 2026.

Metrorail personnel said that they were looking at other options such as a smartphone application that would function similar to a radio. Personnel were currently using other means of communication such as cell phones, cell phone applications, and text messages outside the official Metrorail channels, which may be necessary during an emergency. These channels are not appropriate for routine use because they are neither recorded nor authorized for communication. Metrorail's current Electronic Device Policy, Policy/Instruction 10.3/8, states that "Using an electronic device while operating a vehicle, or while an individual is present in facilities such as garages, shops, yards, stations or in the roadway, diverts attention away from activities critical for safety and therefore poses an unacceptable risk of harm to individuals, including customers and the general public." Therefore, if Metrorail proceeded with a smartphone application, Metrorail would need to consider the Electronic Device Policy and specifically the issue of the user's attention being diverted from activities critical for safety.

After Action Reports & Mitigation Tracking

Metrorail may use after action reports of safety events to drive continuous safety improvement. Radio deficiencies were documented in four after action reports provided for this audit. Metrorail maintains an overarching tracking report, the After Action Report Improvement Action Status, that catalogues issues identified by all after action reports. Only one of the radio communication deficiencies appears as an item in the tracker provided for this audit and that item is listed as resolved.



This event resulted in an investigation report, W-0246, which noted that there was "poor radio reception throughout the event."

One after action report entry stated that "OEP will form a workgroup to discuss and establish alternate means of communication between responders when radio communications are hampered." That entry is marked complete as of May 31, 2022 with the note: "This was accomplished through other channels. I.e. Planning and Exercising Roll over Contingency plan is an example of the working relationship." However, the four after action reports cited below and the 38 WMSC investigation reports (the full list may be found in Appendix F) that identify radio deficiencies in events that have occurred since May 31, 2022 demonstrate that radio issues are not resolved and therefore the item should not be closed.

An example of the radio communications difficulties is described in the Metrorail After Action Review Report and Improvement Plan #2023-11 for a safety event at Potomac Yard on July 23, 2023. The after action report explained that during the evacuation "Personnel on the scene reported significant radio communication issues during the incident. There were signal/network issues and excessive chatter on the airways, making it difficult for the train operator on the scene to get through to the Rail Operations Control Center (ROCC)."

In another example, After Action Review Report and Improvement Plan #2202, the Metrorail after action report from a collision that occurred on February 21, 2022 at L'Enfant Plaza Station it was noted that "MTPD tactical radios coverage was interrupted and adversely impacted communications." However, the investigation report for this event, **W-0173**, did not identify any radio communication issues.

In the After Action Review Report and Improvement Plan #2023-07 from an event at Pentagon City Station on April 9, 2023, it was observed that "The assessment revealed operational communication gaps resulting in miscommunication issues, including insufficient radio infrastructure and response personnel bypassing the command structure. Despite these setbacks, the inter-agency response to the incident was effective overall." This event resulted in an investigation report, **W-0246**, which noted that there was "poor radio reception throughout the event." And that "The Officers noted that they used cellular devices as a means of communication to other officers assigned to the event."

The After Action Review Report and Improvement Plan #2023-06 pertaining to a smoke/fire event at Branch Ave Station on March 9, 2023, stated that "MTPD reported that there were intermittent issues with the radio communication during the incident."

WMSC Investigation Report **W-0252** of an evacuation for life safety reasons at Ronald Reagan Washington National Airport Station on September 3, 2023, found that "Radio communications between the MAC [Mission Assurance Coordinator] and Incident Commander were distorted at various times during the event."

WMSC Investigation Report **W-0254** of a collision at Rhode Island Ave Station on August 23, 2023 found that MTPD personnel experienced radio communication challenges with the mission assurance coordinator in the control center and as a result had to use cell phones to communicate "throughout the incident." Metrorail personnel identified this issue during the after action meetings and report; however, this issue continues to challenge Metro Transit Police Department personnel in the field during events.

WMSC Investigation Report **W-0197** of an evacuation of Eastern Market Station on September 9, 2022 summarized "The investigation identified that the Train Operator experienced radio transmission issues with their handheld radio, which led to the station

manager sharing their handheld radio with the Train Operator. That radio handoff was not communicated to the Rail Operations Control Center. This led to an inability of these key responding personnel to communicate on expected radio channels because the Train Operator was communicating on the operational radio channel used for the line, and the station manager typically communicates on a different channel, Ops 5. The Train Operator communicated to the Rail Traffic Controller that the station manager was on the train with them addressing the fire, however a Rail Operations Information Center Controller continued to make general announcements on the different, Ops 5 radio channel that the station manager at Eastern Market should evacuate riders from the station."

WMSC Investigation Report **W-0198** of an evacuation event at Rhode Island Ave Station on September 19, 2022 stated "This event demonstrates deficiencies as evidenced by the failed communications between ROIC [Rail Operations Information Center] and the Station Manager and between MTPD and the Office of Customer Service Call Center. For example, there were four failed attempts by ROIC to contact the Station Manager during this event. When the station manager contacted ROIC via phone after the first failed attempt, ROIC personnel made no attempt to conduct a radio check with the Station Manager while they were on the phone to ensure any subsequent radio communications could be transmitted and received, including evacuation instructions. Despite communications issues being experienced in the field during this event, WMATA communications systems and radio branch reported that there were no radio communications issues found during inspection following the event at Rhode Island Ave-Brentwood Station."

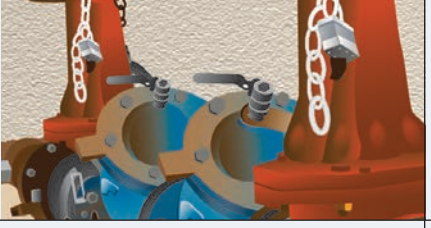
Personnel reported during the audit that radio transmission problems are a regular occurrence and that associated service tickets generated for the issue are often noted as "resolved" despite radio transmission issues persisting.

Personnel reported during the audit that radio transmission problems are a regular occurrence and that associated service tickets generated for the issue are often noted as "resolved" despite radio transmission issues persisting.

- **Minimum Corrective Action:**
  Metrorail must identify all radio communication deficiencies (inability to transmit or inability to clearly understand the transmission) and establish both long-term infrastructure solutions and short-term mitigations for the identified radio communication deficiencies. Personnel, including rail traffic controllers, rail vehicle operators, and roadway personnel must be made aware of the locations of area outages through regular documented notifications. Metrorail must establish an ongoing process that maintains the radio system in a reliable state systemwide.

▶ Finding 2: Metrorail Emergency Trip Stations (ETS) located throughout the system are not treated as fire life safety assets.

Metrorail's asset list shows 2000 Emergency Trip Stations (ETS) throughout the Metrorail system. There are ETS located every 800 feet along the roadway. ETS have two life safety critical features, which can be used independent of each other: A phone that provides a direct connection to the control



center and a red push button capable of de-energizing third rail power in a pre-defined segment of the roadway. Responsibilities for inspection, preventive maintenance, and corrective maintenance are assigned to multiple departments including Safety and Readiness, the Office of Power, Digital Modernization, and Facilities Maintenance. As of September 9, 2024, there were open work orders for 55 ETS boxes, which had varying functionality issues.

The previous WMSC Audit of Metrorail's Emergency Management and Fire and Life Safety Programs (dated February 22, 2022), Finding 8 stated "There is inadequate coordination among organizational units charged with developing, inspecting and maintaining critical fire and life safety assets, and there is no unified process to identify, prioritize and address fire and life safety risks." Although that finding was broader than emergency trip stations, on the ETS it stated:

> There is no formal, integrated, holistic process for inspecting fire and life safety and emergency management assets and ensuring that identified deficiencies are addressed. For example, Emergency Trip Station (ETS) boxes are separately inspected by at least three different departments, none of which conducts these inspections together. Although Metrorail tags ETS boxes that are out of service, different organizational units use different tags that are not clearly understood by personnel in the field who may need to use the boxes in an emergency. Some elements of the inspections are captured and reported through Maximo work orders, however that does not effectively prioritize repairs to prevent and mitigate safety issues. For example, several people interviewed for this audit stated that they are sometimes directed to repair a lower-risk issue first because it has been open longer than a higher-risk issue. Even then, work is made more difficult for some frontline employees because they are not trained on how to easily gather work history related to an item that they are repairing to help determine the cause or best course of action. (pp. 33–34.)

This statement from the 2022 audit remains true today. Corrective action plan C-0169 was created to address Finding 8 from the 2022 audit; however, despite C-0169's progress on, for example, creating fire life safety asset management dashboard, emergency trip stations remain an issue necessitating a finding with dedicated corrective action.

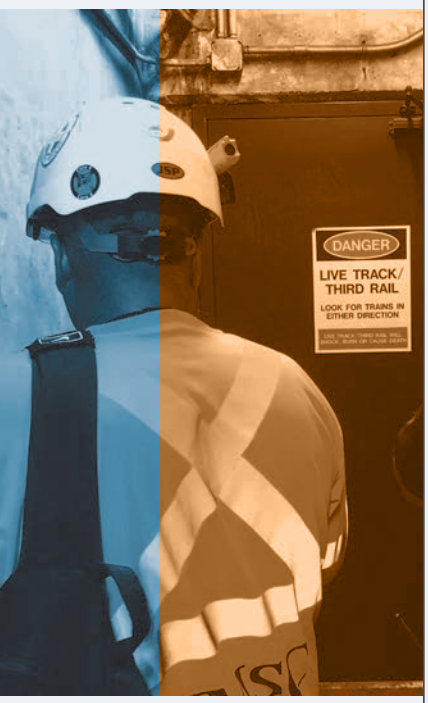
As of September 9, 2024, there were open work orders for 55 ETS boxes, which had varying functionality issues.

Inspection, Maintenance, and Corrective Maintenance Procedural Discrepancies

Requirement:

Procedure Number: 4121-3-02/01, Safety Inspections (dated March 10, 2023) states that Emergency Trip Stations are to be treated as Fire Life Safety Assets: "FLS Assets – Fire life safety and emergency preparedness/response equipment which includes, but is not limited to: ... 3.2.2. Communication equipment including emergency trip stations (ETS), emergency phone systems, public address systems, intercoms, and radios[.]"

The Facilities Maintenance (FMNT) procedure provided for this audit, FMNT-SOP 209-07-10, Prioritizing and Documenting Maintenance Work (dated March 13, 2024), defines the Fire/Life-Safety (FLS) assets as "Building construction, protection, and occupancy features



Of the 12 Emergency Trip Stations reviewed, 9 were in need of repair.

that minimize the effects of fire and related hazards for the purpose of protecting people. FMNT's FLS assets are drainage pumping stations, emergency exits, egress hatches, fire protection/suppression systems, tunnel ventilation systems, and emergency tunnel evacuation carts (ETECs)."

TRPM-SOP-14-03, Inoperable Emergency Trip Station Procedure (Rev. 3, 12/7/2022), section 6.2 states "the inoperable ETS is repaired as soon as possible, schedule and ensure standby coverage in rooms and platforms as described in this policy until remediation and ensure that the Assistant Superintendent/Superintendent is notified of the ETS issue." Section 6.1.2 states "TRPM personnel shall affix a Red "X" and Red Tag on each ETS box where the ETS is found to be inoperable."

Procedure DM-UC-OPM-001, Emergency Trip Station (ETS) Phone Maintenance (Rev. 7, 3/25/2024), section 3.2.7.11 states "INT [Integrated Network Technicians] shall place a yellow repair tag (see Figure 2 and Figure 3) on the door handles of all ETS Phones with operational deficiencies." That tag must also include the date fault was recorded, the INT inspector's unit number, the ETS box number, and the failure code.

Nonconformance:

As of September 9, 2024, there were 55 open/incomplete work orders related to the ETS boxes with some open for over two months. On September 12, 2024, WMSC personnel conducted observations by conducting a track walk on Track 2 (West Falls Church to Dunn Loring) with personnel from Metrorail's Department of Digital Modernization to examine ETS boxes. Of the 12 Emergency Trip Stations reviewed, 9 were in need of repair.

Two of the ETS boxes inspected were not capable of bringing down third-rail power, as indicated by an "X" using red tape. This is intended to advise personnel that these particular ETS boxes cannot bring down power; however, these two boxes were not included in the list of 55 non-functioning ETS boxes from the September 9, 2024 open/incomplete work orders.

The yellow tagged boxes are treated as a lower priority item than the "Red X"-designated ETS boxes, as yellow-tagged ETS boxes retain the capability to bring down third-rail power in the case of an emergency; however, yellow-tagged ETS boxes indicate that the telephone is not capable of contacting the control center.

TRPM-SOP-14-03, Inoperable Emergency Trip Station Procedure (Rev. 3, 12/7/2022), section 6.2 states "the inoperable ETS is repaired as soon as possible, schedule and ensure standby coverage in rooms and platforms as described in this policy until remediation and ensure that the Assistant Superintendent/Superintendent is notified of the ETS issue." For the two ETS boxes marked with a Red X that the WMSC observed during onsite activities, Metrorail noted in a September 24, 2024 reply, that both were repaired, checked for functionality and the X's removed.

During an interview, a power desk controller stationed at the control center, who is responsible for power energization, was unaware of what a "Red "X" taped over a box meant and stated that if any boxes were out of service, personnel would need to stand by until those boxes were fixed. This was similar to discussions with the Office of Emergency Management personnel who indicated that if a fire and life safety asset was out of commission, personnel were required to stand by until the condition was remedied or mitigated.

During an interview, an IT Infrastructure technician noted track access as an impediment to repairing ETS boxes, stating that there are restrictions on being granted track rights to conduct the work. Typically, it takes 3 weeks at a minimum to get track rights to fix known problems with these assets even though personnel are available to address them more quickly. Emergency requests are typically not permitted in cases when only the telephone within the box is not functioning properly, as that is not considered as an emergency. This lack of urgency and prioritization demonstrates that Metrorail is not treating ETS boxes as life safety assets. In the absence of reliable radio communication, which has already been determined to be an ongoing issue throughout the system, these telephones may be the only means of communication during an emergency.

Procedure Number: 4121-3-02/01, Safety Inspections (March 10, 2023) section 3.2 includes Emergency Trip Stations in its definition of fire life safety (FLS) assets. "Fire Life Safety (FLS) Assets – Fire life safety and emergency preparedness/response equipment which includes, but is not limited to... 3.2.2. Communication equipment including Emergency Trip Stations (ETS), emergency phone systems, public address systems, intercoms, and radios." The work prioritization procedure presented for this audit, Procedure Number: FMNT-SOP 209-07-10, Prioritizing and Documenting Maintenance Work (March 13, 2024), does not define ETS boxes as an FLS asset. Although the different procedures are intended for different Metrorail departments, the result is a contradiction that has resulted in ETS boxes receiving varying priority, instead of consistently being given the highest priority.

Silver Line-Specific Power Trip Verification Testing, Inspection, and Maintenance

Metrorail has two different preventive maintenance inspections for ETS box enclosure inspection and trip verification testing: PWR 1241.1 is for all ETS boxes excluding the Silver Line and PWR 1241.2 applies only to the Silver Line's ETS boxes. The Silver Line's emergency trip stations differ from ETS on the rest of the Metrorail system in that they have a remote monitoring system with specific instructions stated in PWR 1241.2 that do not exist in PWR 1241.1. This ETS Remote Monitoring (ETSRM) system is provided in a separate box adjacent to the ETS box.

The Silver Line's emergency trip stations differ from ETS on the rest of the Metrorail system.

Requirement:

Preventive Maintenance Inspection, PWR 1241.2, Emergency Trip Station (ETS) & Monitoring System, Enclosure Inspection and Trip Verification Test (For Silver Line), 1092 Day Inspection, Revision 0 (dated March 29, 2024). The stated purpose is:

> "2.2.1 Each ETS is vital to the emergency trip system for the safe, rapid removal of third rail power in the event of an emergency. The testing of each ETS trip circuit and ETS telephone, and the inspection of each ETS Remote Monitoring Cabinet (see Figure 1), which houses the ETSRM IED [Intelligent Electronic Device] along with its control and communication wiring, which are necessary to detect and correct any malfunction. Except for maintenance testing and repair, ETS should only be operated in an emergency.

Section 2.4.1 states that "The recommended preventive maintenance interval for ETS system and ETSRM [Emergency Trip Station Remote Monitoring] is three years (1095 days)."

> 2.2.2 The purpose of this PMI is to verify the ETS system integrity and reliability by performing a visual inspection of the ETS system components and by testing the function of the ETS system. Additionally, the ETSRM [Emergency Trip Station Remote Monitoring] functionality is checked. Repairs, other than lamp and globe replacement, minor mechanical adjustments, and cleaning, are outside the scope of this procedure. Missing or defective components discovered during the execution of this procedure should be addressed by opening a Failure Service Record (CM work order) for later repair so that testing and inspection of the scheduled track section may continue."

Section 2.4.1 states that "The recommended preventive maintenance interval for ETS system and ETSRM [Emergency Trip Station Remote Monitoring] is three years (1095 days)."

Nonconformance:

Rail operations on the Silver Line began on July 26, 2014 for Phase I and on November 15, 2022 for Phase II; however, PWR 1241.2 did not exist until March 29, 2024 (3,534 days or more than 9 years after rail operations started on Phase I). The ETS box enclosure inspection and trip verification is required for each box every 1095 days (every three years)—a requirement under section 2.4.1 in both PWR 1241.1 and PWR 1241.2 (Section 2.4.1). As part of this audit, the WMSC requested the most recent inspection campaign for Phase I.

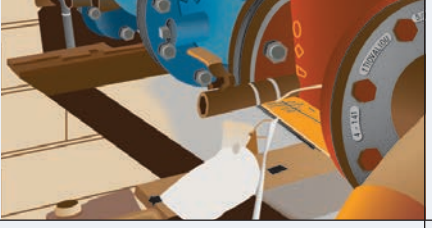
The key additional aspect of PWR 1241.2 section 2.4.1 is that the ETSRM (ETS Remote Monitoring system) must also be inspected every 1095 days (three years). There are specific procedures that relate to the ETSRM itself such as checking the enclosure's overall condition and checking the ETSRM communication status with the ETS remote terminal unit (Section 8.4.5.1).

Metrorail provided evidence of ETS inspections on the Silver Line prior to the 2024 release of PWR 1241.2, but Metrorail personnel were relying on PWR 1241.1 that specifically excludes the Silver Line. PWR 1241.1 does not contain the additional ETSRM inspection aspects that exist for the Silver Line and also does not include the necessary preventive maintenance inspection (PMI) forms to be completed for the Silver Line ETS boxes.

Because there were no specific PMI forms yet created for the Silver Line, personnel created their own forms, and in some cases, wrote in affected locations and breakers that were inspected/tested. These unofficial PMI forms contain either reference to the June 2013 (Revision 3) version of PWR 1241.1 or contain no document reference at all. One completed test form dated 10/23/2020 did not include the specific ETS box numbers or the affected breakers for each ETS box.

Requirement:

PWR 1241.2 (ETS inspection for the Silver Line) states that "8.5.5 The ETS Test Supervisor shall initiate or direct other ETS Test personnel to initiate a CM work order for repairs not covered by the scope of this PMI, and enter the CM work order number into the Noted Discrepancies column of the master ETS Trip Verification Test Log." The PMI forms contain a column titled "Remarks & CM Work Orders." Section 1.6 states that "The maintenance crew lead technician shall be responsible for the quality and completeness of the performed work, and for documenting all data and test results during the process."



7 out of 223 of the ETS box inspections included issues such as the blue ETS light being out, or the telephone not functioning, but did not include the work order, as required.

Nonconformance:

Metrorail did not have a procedure for the Silver Line ETS boxes and ETS remote monitoring system (ETSRM). Instead, Metrorail was using a procedure not intended for use on the Silver Line and did not address ETSRM until 2024. The data that Metrorail did provide (even though using the incorrect procedure) evidenced several nonconformances:

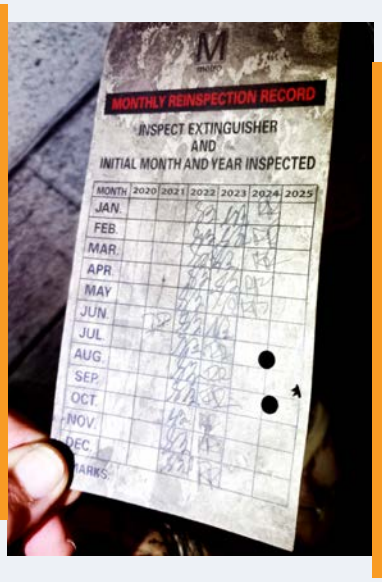
- The submitted ETS box inspections do not demonstrate that the ETSRMs were inspected because Metrorail was relying on PWR 1241.1, that excludes Silver Line and ETSRM, to conduct the ETS box inspections on the Silver Line before March 2024 and all of the submitted evidence dates to 2023 or earlier.
- 201 out of 223 ETS box inspections used forms that did not have a column for the pass/fail criteria (only 22 ETS boxes were on a form that did have a pass/fail column). Of the 22 ETS boxes that were inspected with a form that did have a pass/fail column, 8 are marked as "Fail" and have comments regarding either drawings that need to be updated or that note that breakers did not function as intended, but none list corrective maintenance work order numbers.
- 22 out of the 223 ETS box inspections used forms that were missing the date of the test itself. The file name has a date but it cannot be determined if all of these tests were completed on the listed file name's date.
- 201 out of 223 ETS box inspections used forms that were derived from PWR 1241.1, Revision 3, dated June 20, 2013 forms despite that procedure excluding the Silver Line and the form for that procedure not listing the Silver Line's ETS boxes or affected breakers. Of these 201 ETS box inspections, 89 were completed after Revision 4 of the form was released on June 21, 2023.
- 7 out of 223 of the ETS box inspections included issues such as the blue ETS light being out, or the telephone not functioning, but did not include the work order, as required.
- There are document control issues within PWR 1241.2 where references still show PWR 1241.1 where it should state PWR 1241.2.

◆ Minimum Corrective Action:

Metrorail must review all departmental procedures (Safety, Power, Infrastructure, Information Technology, Facilities Maintenance, etc.) related to emergency trip stations and ensure proper alignment on the responsibilities for the inspection, preventive and corrective maintenance, and prioritization of all emergency trip stations. Emergency trip stations must be identified and repaired on a timeline commensurate with the function they are intended for, that is fire life safety and emergency functions. There must be clear responsibility for identification of emergency trip stations that are in need of repair and notification to proper departments for resolution. Out of service emergency trip stations must clearly indicate, in a manner readily understood by all personnel, what aspect of the emergency trip station is not in service.

Finding 3: Metrorail fire and life safety inspections do not identify and resolve deficiencies with fire life safety equipment and assets within stations.

Maintaining fire and life safety equipment and assets in a state of good repair is essential to the safety of riders, employees, and first responders as such equipment and assets are expected to be available in good repair whenever a safety event or emergency occurs. Metrorail is not consistently inspecting and maintaining these assets as required. For example, during onsite observations for this audit, some emergency egress routes were blocked by debris and areas of refuge were being used as storage. Blocked egress routes decrease the probability of survival during an emergency.



Requirement:

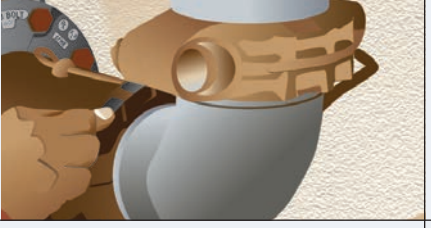
Metrorail Procedure Number: 4121-3-02/01, Safety Inspections (dated March 10, 2023) section 1 (Scope) states that "This Standard Operating Procedure (SOP) applies to all personnel within the Department of Safety and to the functions, operations, and resources necessary to ensure that the Washington Metropolitan Area Transit Authority (WMATA) bus, rail, metro access, and administrative facilities are safe and equipped with adequate applicable fire prevention systems that meet applicable fire codes and comply with applicable federal, state and local safety regulations. This document has been created in compliance with the Quality Management System Plan (QMSP), Policy Instructions 1.1 (Document Governance and Hierarchy), and 6.1 (Records Management)."

Section 2 (purpose) states that "Inspections are to ensure that WMATA have adequate fire prevention systems in place that meet applicable fire codes and mitigate adverse events. The purpose of this procedure is to establish the process for performing Fire Code Inspections by WMATA, the Department of Safety, the Office of Emergency Preparedness, and the Office of the Fire Marshal Inspectors for all of WMATA. Specifically, the facilities WMATA owns and rents including bus, rail, metro access and administrative facilities. Facility inspections performed by the Department of Safety do not replace the requirement for facility owners/occupants to perform and document routine inspections."

Procedure 4121-3-02/01 also defines Fire life safety and emergency preparedness/ response equipment within section 3.2 as:

- 3.2.1. Emergency egress routes including stairs, hatches, tunnel knee-wall walkways, elevated guideway safety walkways, doors, hatches, gates, lighting, emergency exits, and signage;
- 3.2.2. Communication equipment including Emergency Trip Stations (ETS), emergency phone systems, public address systems, intercoms, and radios;
- 3.2.3. Fire Alarm systems including detectors, gas detector systems, notification and/or visual devices, lights, speakers, automatic activators for fire doors, gates, smoke control systems;

Blocked egress routes decrease the probability of survival during an emergency.

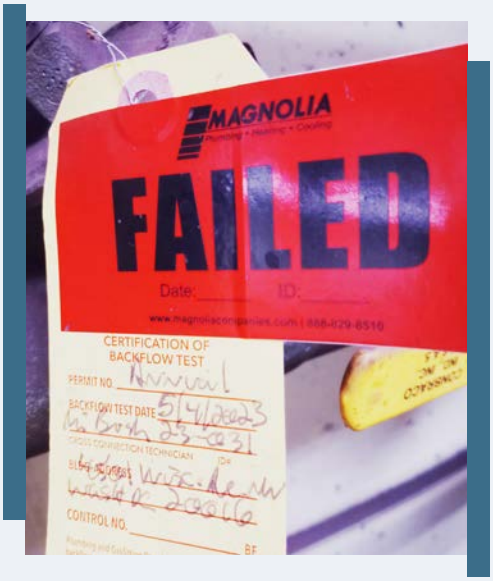


- 3.2.4. Fire systems including fire department connections, standpipe systems, fire extinguishers, hose cabinets, hydrants and sprinkler systems;
- 3.2.5. Ventilation systems including airshafts, fans, shutters, remote and local control panels;
- 3.2.6. Incident response tools and equipment that are maintained on the system or provided to emergency responders including AED's, medical cabinets, energized power verification devices (including Warning Strobe and Alarm Devices), ETEC carts and response vehicles;
- 3.2.7. FLS Signage (exit signs, emergency information).

Nonconformance:

As part of this audit, on September 11 and 12 of 2024, WMSC teams conducted station inspections which included aspects of both emergency preparedness and checks of life safety assets. The WMSC visited 15 stations that were on the Red, Blue, Orange, and Green lines.

During those audit observations, WMSC personnel identified several safety issues. The full list of identified safety issues can be found in Appendix E of this report and are summarized here:



- Fire Extinguishers:
  - Not inspected or signed off.
  - Not properly stored.
  - Not properly replaced after use.
- Station Fire Life Safety Equipment:
  - Backflow prevention equipment not inspected.
  - Backflow prevention equipment inspected but listed as failing.
  - Storage of equipment blocking fire cabinets.
- Egress, Areas of Refuge, and Areas of Rescue:
  - Egress routes blocked by debris and equipment.
  - Areas of Refuge or Rescue being used for storage.
  - Egress pathways containing debris.
  - Blocked signage.

On September 11 and 12 of 2024, WMSC teams conducted station inspections which included aspects of both emergency preparedness and checks of life safety assets.

As noted in the Immediate Actions and Mitigations section of this report, Metrorail personnel were made aware of each of these issues as each was identified during the audit observation. All identified observation issues were then provided to Metrorail in writing (via e-mail) on September 17, 2024. The full list of all items can be found within Appendix E of this report. Where possible, during the observation, Metrorail personnel addressed items immediately as they were identified or contacted the appropriate personnel to address the issue for resolution at a later time. In response to the WMSC's September 17, 2024,

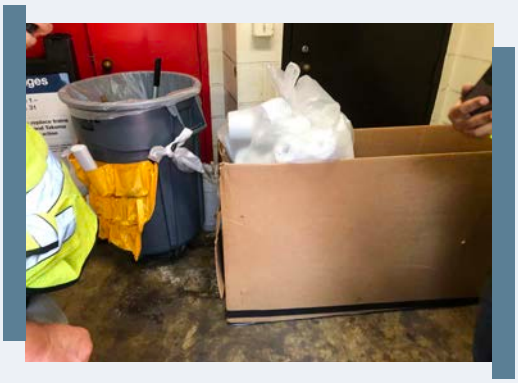
In response to the WMSC's September 17, 2024, e-mailed observation issues, Metrorail responded that the identified issues comprised 35 code violations.

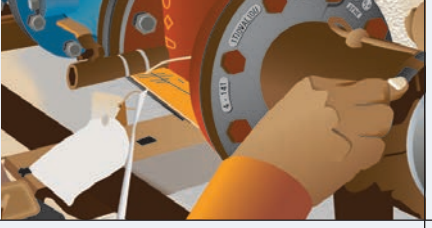
e-mailed observation issues, Metrorail responded that the identified issues comprised 35 code violations.

In the previous WMSC Audit of Metrorail's Emergency Management and Fire and Life Safety Programs (dated February 22, 2022), Finding 8 stated "There is inadequate coordination among organizational units charged with developing, inspecting and maintaining critical fire and life safety assets, and there is no unified process to identify, prioritize and address fire and life safety risks." Corrective action plan C-0169 was created to address this finding. C-0169's minimum corrective action stated that "Metrorail must develop and implement a formal, integrated process for the inspection, maintenance, and repair of fire and life safety and emergency management assets, including the process to receive, document and address safety issues identified by external entities such as jurisdictional fire departments and AHJs [authorities having jurisdiction]. Metrorail must provide adequate training on these processes, including the requirements for how frontline employees are to gather, access and communicate information that is necessary to carry out the integrated inspection, maintenance and repair process. Metrorail must specify responsibilities, roles and required coordination for each position and department with responsibilities related to fire and life safety and emergency management and preparedness."

On May 3, 2016, the National Transportation Safety Board (NTSB) adopted its report concerning the January 12, 2015, L'Enfant Plaza Station electrical arcing and smoke accident. As a result of that investigation, 24 recommendations were issued to Metrorail, one of which, R-16-28, was to "Implement a regular schedule for the inspection and removal of obstructions from safety walkways and track-bed floors to ensure safe passageways for passengers to use during a tunnel evacuation." Although this recommendation pertained to tunnel walkways and track-bed floors, it is equally important for station areas to be free of obstruction.

Metrorail currently has procedures for regular daily inspections by its station managers. The Department of Safety has its own separate procedure for safety inspections (procedure 4121-3-02/01). These inspections are intended to identify any issue that requires resolution, including life safety issues. Identifying the issue then enables notification to the appropriate group and ultimately resolution.





This audit identified that despite WMATA's efforts and implementation of C-0169, the identification of life safety issues remains an issue that results in such issues remaining unaddressed.

Metrorail provided documentation on all items required by C-0169 including creation of a new dashboard to track issues and ensure they are addressed; however, this audit identified that despite WMATA's efforts and implementation of C-0169, the identification of life safety issues remains an issue that results in such issues remaining unaddressed.

- **Minimum Corrective Action:**

  Metrorail must review all departmental procedures for inspections, preventive, and corrective maintenance related to fire life safety issues (this includes but is not limited to assets, equipment, and blocked egress routes) and ensure that inspections are identifying all such fire life safety issues. Inspections should focus on the fire life safety assets but also maintenance issues which could negatively impact their use in an emergency. The inventory of each station's life safety assets should be reviewed to ensure that all assets are properly captured. Metrorail must regularly communicate with front-line personnel to underscore the importance of identifying, addressing, or reporting emergency pathways that are observed as blocked and the importance of keeping these pathways free of debris, construction materials, or any other item that may impede egress in an emergency.

▶ Finding 4: Metrorail is using emergency radio operations channel 6 although the channel is not ready for use.

The National Incident Management System (NIMS), which includes an integrated Incident Command System (ICS), is a standardized, comprehensive incident management structure that provides shared terminology, systems, and processes across organizations (including Metrorail, local fire departments and other emergency responders) for emergency management and response to maximize available resources and promote safe and efficient management of incidents.

Requirement:

Metrorail's Standard Number: 1003-2-01/01, Incident Management Standard (dated July 10, 2023) section 2.1.2 states that it will "Ensure the Authority's management of incidents is in accordance with the National Incident Management System (NIMS), as mandated by Homeland Security Presidential Directive 5 (HSPD-5). To provide for interoperability and compatibility among local, state, tribal, and federal capabilities."

Nonconformance:

There is confusion regarding the use of a separate radio operations channel, Ops Channel 6, which is intended for use during emergencies. It was reported to WMSC personnel during the audit that Metrorail personnel desire to add an official instruction on Ops Channel 6 into Standard Number: 1003-2-01/01, Incident Management Standard, for emergency communications during

Metrorail may not use Ops Channel 6 until such time that it is available to all parties and personnel are properly trained on its use.

an event. In response to WMSC questions on the use of this channel, Metrorail provided an 'Incident Management Framework (IMF) Project Summary' document dated September 12, 2024 that noted ongoing Incident Management Framework updates. The IMF Standard Update column listed this item as "Ops 6 dedicated talk group testing needs to be completed by MTPD" and noted as the status "Delayed." Therefore, personnel should not yet be using Ops 6 if testing remains to be completed.

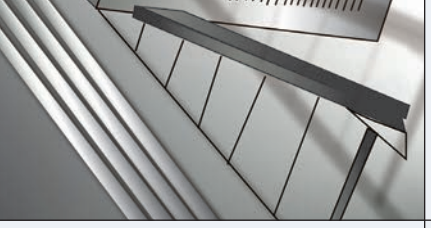
However, Ops 6 is in use, despite testing not yet having been completed as shown by the Metrorail After Action Review Report and Improvement Plan #2024-01 pertaining to a smoke/fire event at the Eastern Market Station on February 15, 2024. That after action report stated that "MTPD radios currently are not programmed with the rail incident channels which prevented on-scene MTPD personnel from directly communicating on Ops #6 during the incident. Additionally, some responding personnel were not aware of their ability to use Ops #6 as a single point of communication." The document further stated that "All MTPD radios should be re-programmed to include each rail incident channel. During incidents when an emergency incident channel is designated, on-scene personnel should be re-directed to switch over to the specified incident channel for all incident communications."

- **Minimum Corrective Action:**
  Metrorail must review and update its Emergency Operation Plans and Incident Management Framework for communication during safety events. Metrorail must update its training to ensure that all personnel involved in safety events are aware of the proper communication channel whether that is Ops Channel 6, the normal Ops Channel for that section of the system, or a different Ops Channel. Metrorail may not use Ops Channel 6 until such time that it is available to all parties and personnel are properly trained on its use.

Finding 5: Metrorail is not contacting jurisdictional emergency services immediately upon identification of fire and smoke on the Metrorail system.

Fire and smoke events can result in severe outcomes, as was demonstrated by the January 12, 2015 electrical arcing and smoke accident near L'Enfant Plaza Station demonstrated in which 91 people were injured and one person died. That event resulted in an NTSB investigation (NTSB/RAR-16-01) that found that the control center did not call D.C. Fire and Emergency Medical Services (D.C. FEMS) "until 17 minutes and 40 seconds after the first smoke detector activation." (NTSB report p. 41.) According to the report, the affected railcars began to fill with smoke within approximately 5 minutes. (NTSB report p. 17).

This audit's sampling of fire and smoke safety events found similar instances of delays in calls to jurisdictional emergency services. Six of 27 sampled events evidenced delays of 10 to 19 minutes and another 12 evidenced delays of 4 to 9 minutes before emergency response requests were made to jurisdictional first responders. These delays conflict with the requirements of the 2015 Metrorail Transit – Fire/Rescue Emergency Procedures Policy Agreement and would also conflict with the updated agreement: Washington Metropolitan Area Transit Authority (WMATA) and the Metropolitan Washington Council of Governments (MWCOG) Fire Chiefs Committee Emergency Policy Agreement (Version 5, November 21, 2024). Delays such as these risk another event like the 2015 L'Enfant Plaza Station event.



Requirement:

The Metrorail Transit – Fire/Rescue Emergency Procedures Policy (dated June 2015), which is an agreement between WMATA and the Metropolitan Washington Council of Governments (MWCOG), includes several procedures related to emergency response on the Metrorail system. The primary committee responsible for this agreement within MWCOG is the Passenger Rail Safety Subcommittee (PRSS),[1] which meets regularly to discuss various topics related to Metrorail. WMATA and MWCOG updated this agreement in November 2024.

Procedure number 2008-01, Metrorail Transit – Fire/Rescue Incident Notification (Rev 2) of the 2015 MWCOG agreement (in effect through November 20, 2024) states in section 1.4.1 that "Upon notification of an emergency within the Metrorail system, the ROCC will immediately notify the jurisdictional fire/rescue service(s) responsible for taking action." The now updated agreement, WMATA-MWCOG Emergency Policy Agreement Chapter 3 (Incident Notification), maintains this requirement, "Upon notification of an emergency within the Metrorail system, WMATA will immediately notify the Fire/Rescue/EMS service(s) responsible for responding." (Emphasis in original.)

Section 1.5.1 states, "Once WMATA personnel notify the ROCC of an emergency, the ROCC will immediately notify the appropriate fire/rescue jurisdiction. The ROCC may then further evaluate the incident to determine appropriate station; nature of the problem (e.g. fire, flood, smoke, etc.) and its magnitude; type of assistance requested; specific location of the problem (the chain-marker if available) and the best access points; third rail status, train movement status, and provide frequent updates of pertinent information."

Section 1.6.3 states, "The ROCC will immediately notify the dispatching fire/rescue communications center if the ROCC receives information indicating fire/rescue personnel and equipment **are not required** before dispatched personnel and equipment reach the scene of the reported emergency. The responding fire/rescue jurisdiction may continue to the scene to verify the current conditions and may return the remaining units if their services are not needed." (Emphasis in original.)

Metrorail Procedure Number: 678, Procedure for Managing Fire and Smoke on the Metrorail System, (dated April 22, 2024), sections 6.2.2 and 6.6.3 both state "Upon confirmation of a fire and smoke incident, RAIL 2 shall immediately contact the Jurisdictional Emergency Services and provide them with the relevant information as detailed in 6.1.2."

Metrorail emphasized that it must confirm fire/smoke events prior to contacting first responders.

Nonconformance:

The person serving in the Rail 2 position in the control center is to contact jurisdictional emergency services immediately upon confirmation from personnel in the field. In response to a preliminary version of this finding, Metrorail emphasized that it must **confirm** fire/smoke events prior to contacting first responders (in accordance with Metrorail Procedure Number

[1] "The Passenger Rail Safety Subcommittee is comprised of designated representatives of agencies responsible for incident response on the light and heavy railroads that transport passengers throughout the COG region. The Subcommittee exists to exchange knowledge and engage in the coordination and enhancement of light and heavy railroad incident response operations. The Subcommittee reports to the Senior Operations Chiefs Committee of the COG Fire Chiefs Committee." (MWCOG website, https://www.mwcog.org/prss/, visited November 26, 2024.)

A report of smoke or fire to the control center by Metrorail personnel is not considered "confirmation" of smoke or fire sufficient to notify jurisdictional fire/rescue services.

678). The threshold for confirmation is not specified as to what additional information the control center requires before contacting jurisdictional emergency services. A report of smoke or fire to the control center by Metrorail personnel is not considered "confirmation" of smoke or fire sufficient to notify jurisdictional fire/rescue services.

During this audit, the WMSC selected two date ranges at random and then reviewed event radio recordings for the safety events of possible smoke or fire in stations, rail facilities, or on the roadway. The first set, from September 1, 2023 through November 30, 2023 and the second set from January 1, 2024 through January 31, 2024. Both sets totaled 27 events. The WMSC identified delays up to 19 minutes after initial notification of a fire/smoke event before jurisdictional emergency services were called. The calls to jurisdictional emergency services were completed as follows:

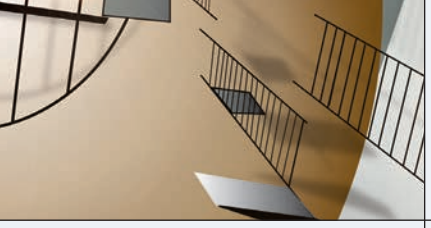
Time from Initial Report to Control Center Stating Smoke/Fire	Number of Events
Less than 4 minutes	5
4–9 minutes	12
10–15 minutes	5
15–19 minutes	1
No call	4

Metrorail was provided with the specific timelines of the sampling results and responded to the WMSC with more detailed information. The above table relies on Metrorail's information as provided on November 13, 2024 (information that is consistent with the WMSC's timeline for each event).

For 4 of the 27 sampled events, jurisdictional emergency services were not contacted. For 3 of those events, there was in fact a fire: At McPherson Sq Station on January 5, 2024 a customer threw a lit cigarette into a trash can that was extinguished by a rail supervisor 6 minutes after initially being reported. At McPherson Sq Station on January 19, 2024, smoke was reported that was ultimately determined to be caused by a knife switch (a lever used to select the power feed to a railcar from third rail power) on a railcar. And at Bethesda Station on January 26, 2024, the assistant operations manager (AOM)/Rail 2 asked personnel on the roadway if they needed the fire department, the roadway worker in charge (RWIC) replied no, that he was "going to knock it out" and then later replied "he didn't have anything to knock it out with."

For 2 of the 27 sampled events, the incorrect jurisdictional emergency service was contacted, which resulted in a one and two minute delay: On November 2, 2023, the City of Alexandria's emergency call center was contacted instead of Arlington County (resulted in 1 minute delay) for an event at Ballston Station. On October 13, 2023, Prince George's County's emergency call center was contacted instead of the District of Columbia (resulted in a 2-minute delay) for an event at Minnesota Ave Station.

On January 3, 2024, jurisdictional emergency services were dispatched to the incorrect location (Branch Ave Station) for an event at Naylor Road Station because the incorrect address was provided. Four minutes later, Prince George's County's emergency call center was contacted with the correct station address for Naylor Road Station.



The duration between the initial report of fire/smoke and the call to jurisdictional emergency services for these three events ranged from 10 to 19 minutes.

Three of the 27 sampled events showed that designated Metrorail personnel failed to contact jurisdictional emergency services, and it was not until the fire liaison officer called jurisdictional emergency services to check response status that the jurisdictions were made aware of the need for an emergency response. The duration between the initial report of fire/smoke and the call to jurisdictional emergency services for these three events ranged from 10 to 19 minutes: September 26, 2023 Greenbelt Yard (10 minutes); October 28, 2023 Bethesda Station (16 minutes); January 17, 2024 Arlington Cemetery Station (19 minutes).

For 6 of the 27 sampled events, Metrorail called jurisdictional emergency services before confirming fire or smoke. Three of these events resulted in jurisdictional emergency services being called in less than four minutes; the other 3 events resulted in the request made in 4 to 9 minutes. These 6 events are not in compliance with Metrorail Procedure Number 678, which requires confirmation of fire/smoke before calling jurisdictional emergency services. Metrorail's practice should be consistent with MWCOG Procedure number 2008-01 (Metrorail Transit – Fire/Rescue Incident Notification) section 1.5.1: As mentioned previously, this policy states, "Once WMATA personnel notify the ROCC of an emergency, the ROCC will immediately notify the appropriate fire/rescue jurisdiction. The ROCC may then further evaluate the incident…." Metrorail's practice should also be consistent with the updated agreement, WMATA-MWCOG Emergency Policy Agreement Chapter 3 (Incident Notification): As noted above "Upon notification of an emergency within the Metrorail system, WMATA will immediately notify the Fire/Rescue/EMS service(s) responsible for responding." (Emphasis in original.)

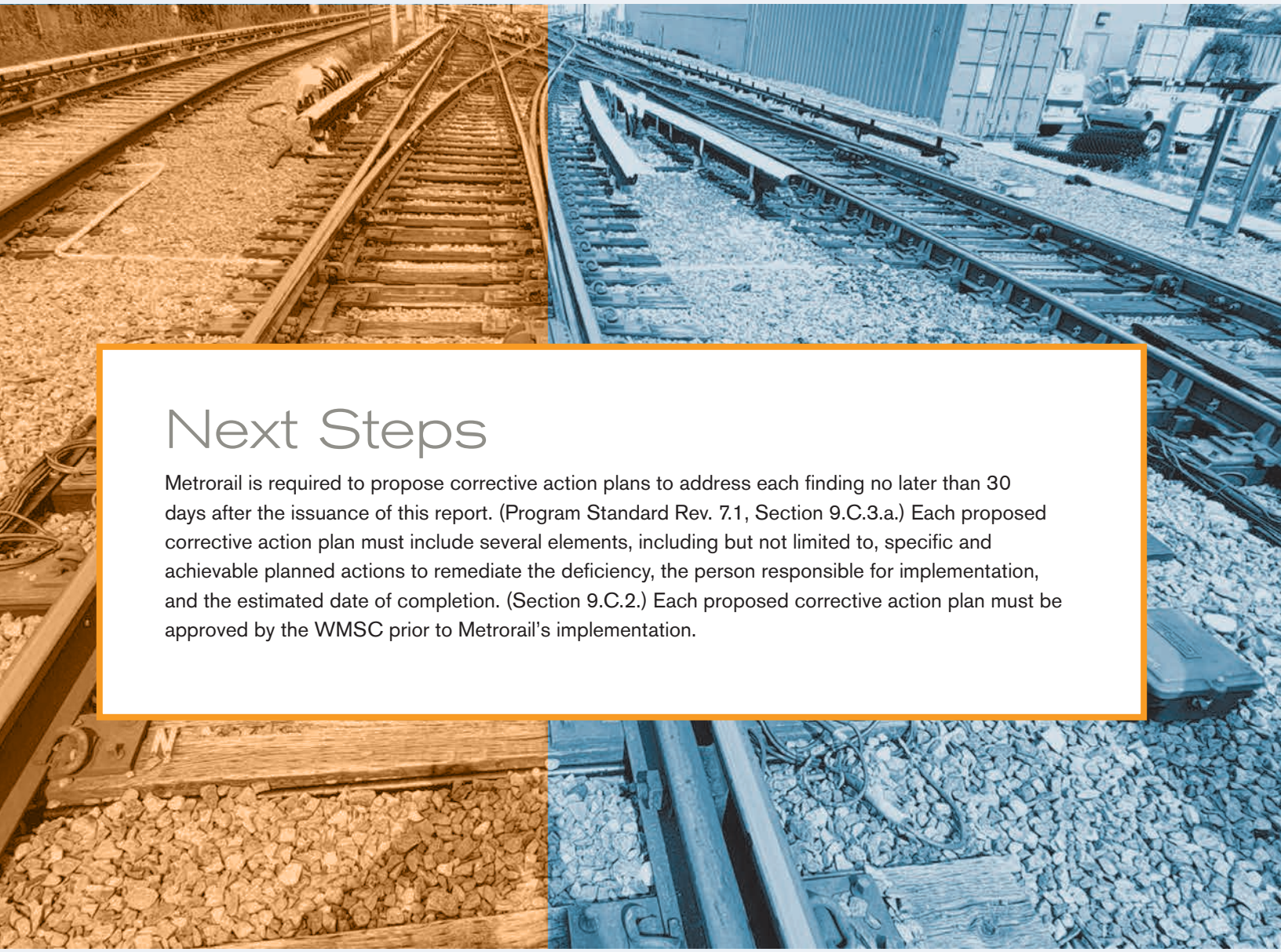
The updated, 2024 WMATA-MWCOG Emergency Policy Agreement defines emergency as "any abnormal situation or incident affecting WMATA property or the Metrorail system with the actual or potential danger to life safety, such as fires, releases of hazardous materials, accidents, medical emergency, or attempted suicides requiring the immediate response of Fire/Rescue/EMS."

Metrorail maintains that it is following Metrorail Procedure Number 678 (Procedure for Managing Fire and Smoke on the Metrorail System) because for 17 sampled events that procedure was followed but for 4 other events that procedure was not followed and jurisdictional emergency services were not called (at least 3 of those 4 resulted in an actual fire).

In 21 of the 27 sampled events, Metrorail did not follow MWCOG Procedure number 2008-01 that was in effect during the sampled events. Metrorail personnel either did not call jurisdictional emergency services (4 events) or called jurisdictional emergency services only after confirming fire/smoke. These conflicting directives have led to confusion regarding control center personnel response during emergencies, resulting in delays to request lifesaving emergency services. The updated WMATA-MWCOG agreement dated November 2024 maintains the expectations of the 2015 agreement: that WMATA must call jurisdictional emergency services immediately upon discovering any abnormal situation or incident affecting WMATA property or the Metrorail system with the actual or potential danger to life safety.

- **Minimum Corrective Action:**

  Metrorail must review and update Metrorail Procedure Number 678 (Procedure for Managing Fire and Smoke on the Metrorail System) so that it is consistent with the 2024 WMATA-MWCOG Emergency Policy Agreement (and any successor agreement) to ensure both are in alignment with and support the procedures, operations, and expectations of Metrorail's jurisdictional emergency service partners. Provide the hazard analysis for final governing procedure. Metrorail must train control center personnel who may be involved in fire and smoke events on the revised procedural requirements. Metrorail must submit evidence showing the new procedures in place and the associated response times for fire/smoke events.



Next Steps

Metrorail is required to propose corrective action plans to address each finding no later than 30 days after the issuance of this report. (Program Standard Rev. 7.1, Section 9.C.3.a.) Each proposed corrective action plan must include several elements, including but not limited to, specific and achievable planned actions to remediate the deficiency, the person responsible for implementation, and the estimated date of completion. (Section 9.C.2.) Each proposed corrective action plan must be approved by the WMSC prior to Metrorail's implementation.

Appendices

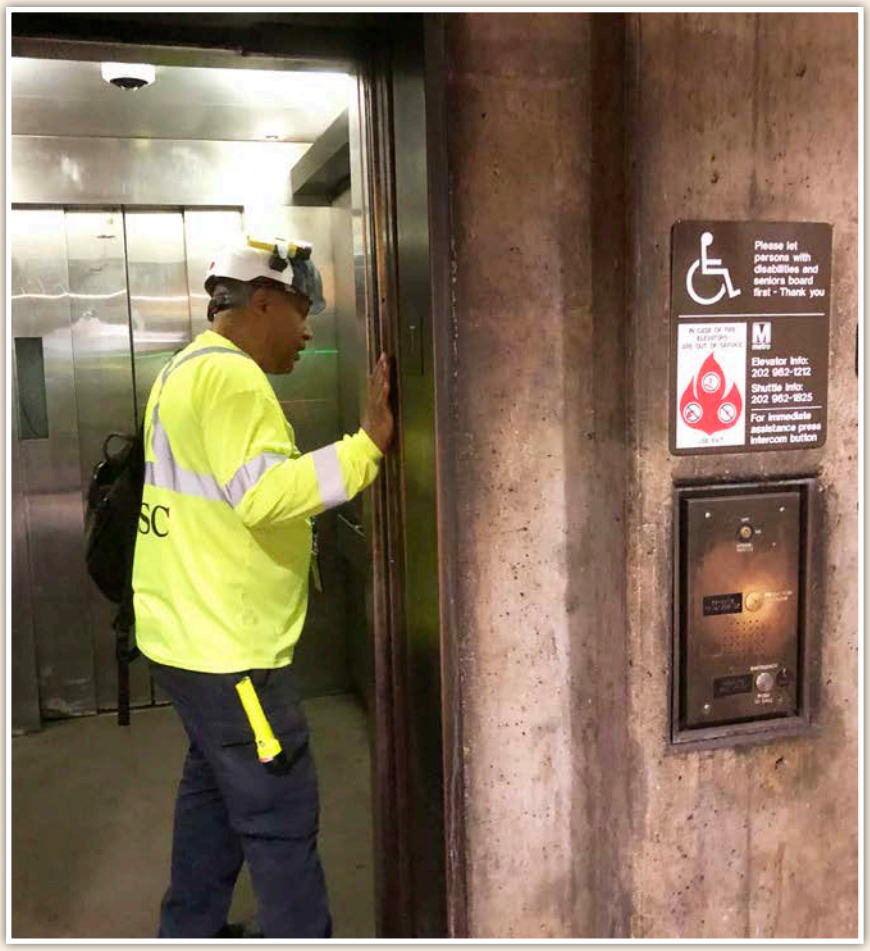
Appendices **A, B, C, D, E** and **F**

Appendix A: Personnel Interviewed

- Office of Safety
  - Chemical Liaison Officer
  - Director, Prevention and Mitigation
  - Manager, Environmental Services (Hazmat)
  - Prevention Mitigation Specialist
  - Senior Director, Office of Emergency Preparedness
  - Senior Prevention/Mitigation Specialist
  - Senior Response and Recovery Coordinator
  - Senior Specialist, Office of Safety Oversight (2)
- Office of Facilities Maintenance
  - Assistant Director, Office of Facilities Maintenance
  - Director, Office of Facilities Maintenance
- Metro Integrated Command and Communications Center
  - Consequence & Resilience Manager
  - Power Desk Controller
  - Rail Traffic Controller
  - Resilience Integration and Coordination
  - Superintendent, Power Desk
- Network Technical Operations
  - Manager
  - Technician (2)
- Metro Transit Police Department
  - Captain

Appendix B: Site Visits

- Wednesday, September 11, 2024
  - Station Observations: Rosslyn, Foggy Bottom–GWU, Farragut West, McPherson Sq, Benning Road, Capitol Heights, Wheaton, Forest Glen, Navy Yard-Ballpark, Anacostia, Congress Heights
- Thursday, September 12, 2024
  - Station Observations: Medical Center, Bethesda, Friendship Heights, Tenleytown-AU
- Thursday, September 12, 2024
  - Emergency Trip Station Observation (Track Walk on Track 2 from West Falls Church to Dunn Loring Stations)



Appendix C: Documents Reviewed

ORGANIZATIONAL CHARTS AND DEPARTMENTS RESPONSIBILITIES:

- Department of Safety Organizational Chart (02/2024)
- Director, Emergency Resilience – Job Description (06/05/2024)
- Fire Equipment Technician A - Job Description (06/05/2024)
- Fire Equipment Technician AA - Job Description (06/05/2024)
- Fire Equipment Technician B - Job Description (06/05/2024)
- Fire Equipment Technician C - Job Description (06/05/2024)
- Fire Equipment Technician D - Job Description (06/05/2024)
- Fire Shop Employee List (no date)
- Fire Shop Organizational Chart (08/15/2024)
- General Equipment Mechanic A - Job Description (06/05/2024)
- General Equipment Mechanic AA - Job Description (06/05/2024)
- General Equipment Mechanic B - Job Description (06/05/2024)
- General Equipment Mechanic C - Job Description (06/05/2024)
- General Equipment Mechanic D - Job Description (06/05/2024)
- Maintenance/Safety Bulletin – Roadway Worker in Charge Responsibilities and Duties (09/2023)
- Memorandum Listing Current Contracts (07/01/2024)
- Memorandum Outlining Prevention and Mitigation/Fire Marshal Office Organizational Chart (08/13/2024)
- Memorandum Outlining the Responsibilities of Structural Engineering and Maintenance Positions (08/13/2024)
- MICC Employee List, spreadsheet (no date)
- MICC Organizational Chart, Phase 2 (01/10/2024)

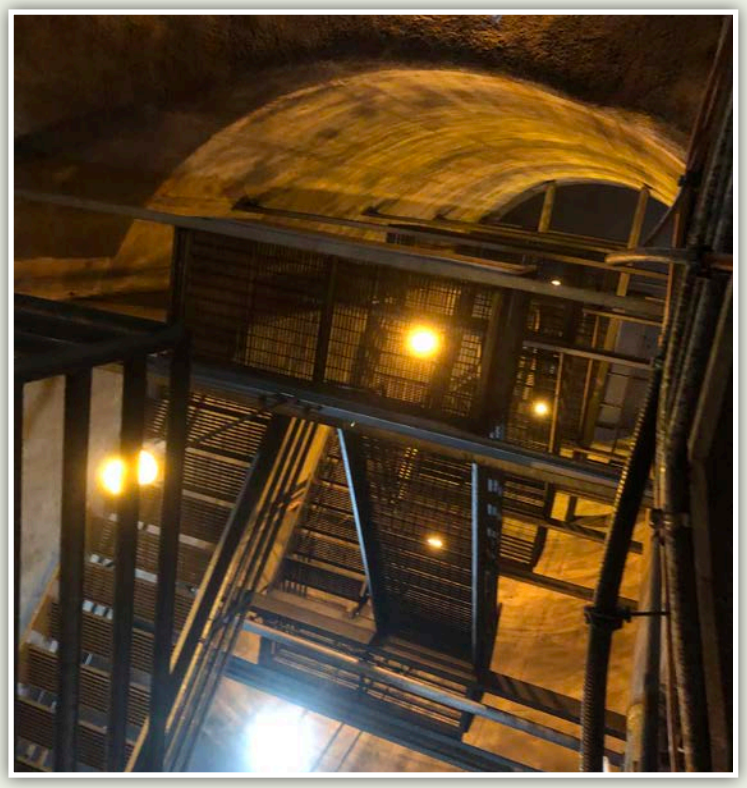
- MICC Rail Traffic Controller Responsibilities (12/08/2024)
- OEP Equipment Management Contract (01/30/2023)
- Office of Emergency Preparedness Employee List, spreadsheet (no date)
- Office of Emergency Preparedness Organizational Chart (no date)
- Resilience Integration and Coordination Specialist, Video and Consequence Management Job Description (06/05/2024)
- Response Recovery Coordination Specialist, Emergency Preparedness - Job Description (no date)
- Senior Resilience Integration and Coordination Specialist, Video and Consequence Management Job Description (06/05/2024)
- Supervisor Craft Crew, Fire Equipment Job Description (06/05/2024)
- Track and Structures Organizational Chart (07/15/2024)
- WMATA MTPD OEM Training Exercises Contract (07/10/2018)

PROCEDURES/POLICIES/MANUALS/FORMS:

- 1002-1-01/00, Emergency Operations Plan (11/01/2022)
- 2024 OPS Emergency Ventilation Playbook (03/21/2024)
- 4400-03-02-00, 8100 Professional Place: Emergency Action Plan (08/25/2022)

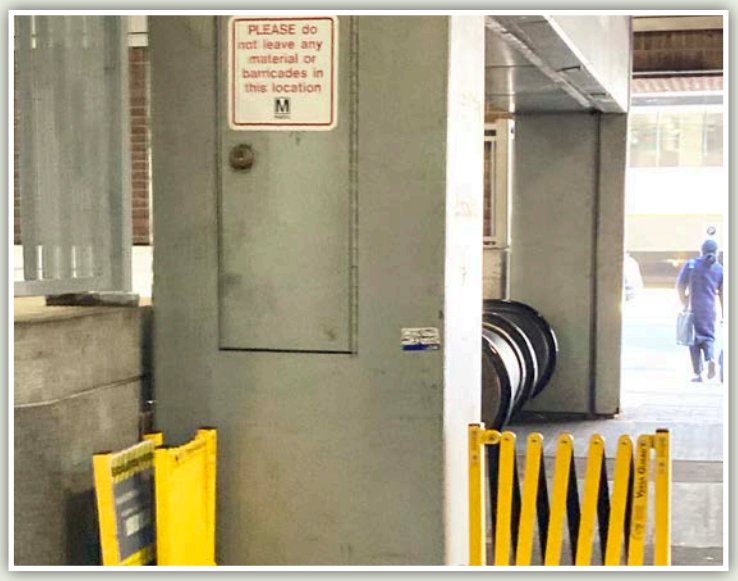
PROCEDURES/POLICIES/MANUALS/FORMS: (CONTINUED)

- 4400-03-03-00, Brentwood Field Maintenance Building: Emergency Action Plan (08/25/2022)
- 4400-03-04-00, MTPD District III: Emergency Action Plan (08/25/2022)
- 4400-03-07-00, Metro Transit Police Department (MTPD) Training Division: Emergency Action Plan (11/16/2022)
- 4400-03-09-00, Track and Structures Department (TRST) Building D: Emergency Action Plan (11/16/2022)
- 4400-03-10-00, Compliance, Safety, Inspection (CSI) (Rear Trailer West Falls Church Metrorail Station): Emergency Action Plan (11/16/2022)
- 4400-03-11-00, MTPD District I: Emergency Action Plan (11/16/2022)
- 4400-03-13-00, EAP Greenbelt Building H: Emergency Action Plan (10/27/2022)
- 4400-03-14-00, MTPD Criminal Investigation Division (CID): Emergency Action Plan (10/31/2022)
- 4400-03-16-00, Largo Railyard Operations: Emergency Action Plan (10/31/2022)
- 4400-03-19-00, Branch Avenue Railyard: Emergency Action Plan (10/31/2022)
- 4400-03-20-00, Alexandria Railyard C94 Revenue Collection Facility (RCF): Emergency Action Plan (10/27/2022)
- 400-3-15-00, Good Luck Road: Emergency Action Plan (10/31/2022)
- 4400-3-17-00, Telegraph Road: Emergency Action Plan (10/31/2022)
- 4400-3-18-00, West Falls Church Yard Building D: Emergency Action Plan (10/31/2022)
- 400-3-21-00, New Carrollton Railyard Maintenance Building D: Emergency Action Plan (10/27/2022)
- 4400-3-22-00, Automatic Train Control Maintenance (ATCM) Facility Building A: Emergency Action Plan (10/27/2022)
- 4400-3-23-00, 8301 Professional Place: Emergency Action Plan (10/27/2022)
- 4400-3-25-00, Occupational Health & Wellness (OHAW): Emergency Action Plan (10/27/2022)
- 4400-3-26-00, West Ox Bus: Emergency Action Plan (10/27/2022)
- 4400-3-35-00, MTPD District II: Emergency Action Plan (11/16/2022)
- 4400-3-39-00, Sheperd Parkway Bus: Emergency Action Plan (12/08/2022)
- 4450-02-01/01, Hazardous Energy Control (Lockout/Tagout) Program (12/22/2022)
- 4900-3-01/00, Portable Fire Extinguishers Guidance and Compliance Manual (10/28/2022)
- AED Program Management Plan (01/23/2024)
- Ashburn Metrorail Station FSE CE Handbook (08/17/2022)
- Capitol South Station FSE CE Handbook (09/17/2023)
- COMR-OAP-105-03/05, Monthly Testing of the Public Safety Radio System (PSRS) and WMATA's Comprehensive Radio Communication System (CRCS) (08/31/2023)



PROCEDURES/POLICIES/MANUALS/FORMS: (CONTINUED)

- Dry Garage Standpipe Tampers Quarterly Test Report (03/01/2022)
- Dry Sprinkler System 3-Year Full Flow Trip Test Report (08/01/2018)
- Dry Sprinkler System Annual Quick Trip Test Report (03/01/2022)
- Dry Sprinkler System Quarterly Test Report (03/01/2022)
- Dulles Airport Metrorail Station FSE CE Handbook (07/27/2022)
- Dulles Rail Yard Exercise CE Handbook (08/31/2022)
- Emergency Egress Inspection Report (03/01/2022)
- Emergency Response Exercises (2022)
- Emergency Response Maps (06/27/2024)
- ETEC Quarterly Inspection Report (03/01/2022)
- Fire Extinguisher Inspection Tag Example (04/05/2017)
- Fire Watch Program Manual (04/2021)
- IMF Curriculum Change Plan (08/2024)
- Incident Management Framework (09/12/2024)
- MAC SOP 40 Platform Berthing, Station Servicing, & Overruns Procedure Checklist (08/14/2023)
- Maintenance/Safety Bulletin – RMM Movement (08/2023)
- Manual of Design Criteria (06/2024)
- Memorandum on Maintenance Dispatching for Power System Faults and Emergencies (11/09/2016)
- Metrorail Operating Rulebook (09/01/2023)
- Metrorail Stations Standard Operating Procedures Handbook (09/2015)
- Metrorail Transit Fire/Rescue Emergency Procedures Policy Agreement (2015)
- MICC-ADM-PRO-02, Metro 1 Roles and Responsibilities SOP (04/25/2024)
- MICC-ALL-PRO-01, Rail Incident Management in the MICC (06/24/2024)
- MICC-ALL-PRO-03, MICC Severe Weather for the Metrorail System (12/8/2023)



- MICC-ALL-PRO-04, Emergency and Maintenance Tunnel Fan Ventilation Procedures (04/22/2024)
- MICC-ALL-PRO-05, Operational Roles in the MICC (04/22/2024)
- MICC-ALL-PRO-14, Flooding Procedure (05/14/2024)
- MICC-P&E-PLN-02, Severe Weather Plan (12/14/2023)
- MICC-P&E-PLN-16, Safety Continuity of Operations Plan (02/12/2024)
- Non-FLS Egress Inspection Notes (03/01/2022)
- OEP Response Vehicle Property Checklist (04/23/2024)
- Permanent Order PO-23-08, Change to Operating Rule 3.87 (09/30/2023)
- Permanent Order PO-23-26, Modification to 100% repeat back rule (10/06/2023)
- Permanent Order PO-23-29, Minor Revisions to MOR (09/01/2023)
- POWER-MAN-01-00, Department of Power-2000 Maintenance Control Procedures (04/12/2023)
- POWER-MAN-02-00, Power-1000 Maintenance & Inspection Manual (06/11/2024)
- Pre-Action Sprinkler System Annual Test Report (08/01/2018)
- Pre-Action Sprinkler System Quarterly Test Report (08/01/2018)
- Pre-Trip Vehicle Inspection Checklist (04/23/2024)

PROCEDURES/POLICIES/MANUALS/FORMS: (CONTINUED)

- Preventive Maintenance Inspection PWR 1241.2 for Emergency Trip Station (ETS) & Monitoring System (03/29/2024)
- Preventive Maintenance Instructions for Above ground CRCS DAS (04/17/2024)
- Preventive Maintenance Instructions for Ambient Microphone System at Carmen Turner Facility – ROCC (04/24/2024)
- Preventive Maintenance Instructions for Belowground Head-End and Line Bi-Directional Amplifiers (12/2023)
- Preventive Maintenance Instructions for City of Alexandria PSRS (11/2023)
- Preventive Maintenance Instructions for CRCS Prime Site Simulcast Controller A_B Rollover (04/16/2024)
- Preventive Maintenance Instructions for CRCS Quantar Mixed-Mode Base Stations (04/2022)
- Preventive Maintenance Instructions for CRCS Standby Prime Site Simulcast Controller Start Up (04/16/2024)
- Preventive Maintenance Instructions for District of Columbia PSRS (04/16/2024)
- Preventive Maintenance Instructions for Fire Alarm System Inspections (07/19/2022)
- Preventive Maintenance Instructions for Intercom System Inspections (09/01/2022)
- Preventive Maintenance Instructions for Line Amplifiers in the Public Safety Radio System (04/2022)
- Preventive Maintenance Instructions for Montgomery County PSRS (04/16/2024)
- Preventive Maintenance Instructions for PSRS Prince George's County Head End Equipment (04/16/2024)
- Preventive Maintenance Instructions for PSRS Visual Inspections (04/16/2024)
- Preventive Maintenance Instructions for Public-Address System Inspections and Alignments (01/11/2022)
- Preventive Maintenance Instructions for Radio Control Stations (04/16/2024)
- Preventive Maintenance Instructions for Radio Dispatch Consoles (04/16/2024)
- Preventive Maintenance Instructions for Remote Site Facility Inspection and Cleaning (04/2022)
- Preventive Maintenance Instructions for Response and Recovery EMS Cabinets (08/16/2023)
- Preventive Maintenance Instructions for Station Cell Enhancer Alignment (03/2022)
- Preventive Maintenance Tunnel Fan Post Incident/Exercise Operation Test Sheet (03/11/2024)
- Preventive Maintenance Tunnel Fan System (06/25/2021)
- Preventive Maintenance Tunnel Fan System 45-Day Checklist (07/23/2021)
- Preventive Maintenance Tunnel Fan System 5-Year Checklist (07/28/2021)
- Preventive Maintenance Tunnel Fan System 5-Year Electrical Test Sheet (03/15/2019)
- Preventive Maintenance Tunnel Fan System Annual Checklist (07/28/2021)

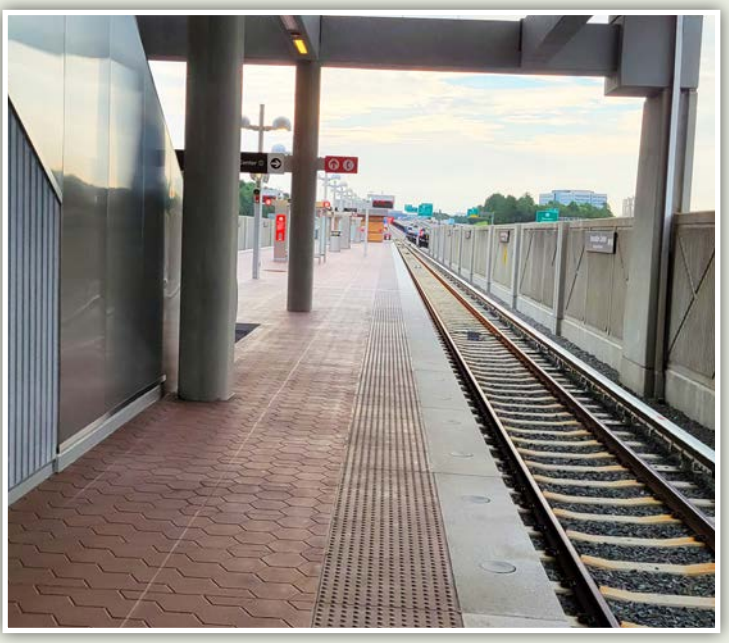
PROCEDURES/POLICIES/MANUALS/FORMS: (CONTINUED)

- Preventive Maintenance Tunnel Fan System Meggering Test Sheet (11/13/2023)
- Preventive Maintenance Tunnel Fan System Vibration Test Sheet (11/07/2023)
- Preventive Maintenance Under Platform Exhaust Fan Systems 45-Days Checklist (03/31/2022)
- Preventive Maintenance Under Platform Exhaust Fan Systems 45-Days, Annual, and 5-Year (03/31/2022)
- Preventive Maintenance Under Platform Exhaust Fan Systems Annual Checklist (03/31/2022)
- Preventive Maintenance Under Platform Exhaust Fan Systems Checklist (03/31/2022)
- Preventive Maintenance Under Platform Exhaust Fan Systems Vibration Test Sheet (03/31/2022)
- Process 1002-4-12/04, Primary Responder (PR) Guidelines (04/25/2024)
- Process 1002-4-14/00, Safety Director On-Call (SDOC) Guidelines (04/25/2024)
- Process 1002-4-16/00, Safety Information Officer (SIO) Guidelines (04/25/2024)
- Process 1002-4-17/00, Safety On-Call (SOC) Guidelines (04/25/2024)
- Project Implementation Manual (08/2020)
- Roadway Job Safety Briefing Form (10/23/2020)
- RTRA-202-02-00, Office of Rail Transportation Terminal Standards (08/10/2022)
- RTRA-301-02-01, SMS Incident Investigation Process (02/29/2024)
- RTRA-303-13-00, Severe Weather Guidance (03/03/2024)
- RTRA-901-01-00, Post-Accident/Incident Interview Questionnaire (no date)
- Safety Bulletin, Emergency Trip Stations (07/2017)
- Safety Bulletin, ETS/Radio Outage Status List (03/2018)
- Safety Bulletin, Mitigation Actions Developed Following the Collision (no date)

- Safety Information Officer Activation Plan (05/08/2024)
- Safety Standard 1003-2-01/01, Incident Management Standard (07/10/2023)
- Section 00 73 90, Fire Protection Equipment and Life Safety Agreement (no date)
- Section 00 74 00, Protection of Persons and Property (no date)
- Section 01 11 40, Safety/Environmental Requirements (no date)
- Section 01 51 00, Temporary Utilities (no date)
- Section 08 11 13, Hollow Metal Doors and Frames (01/2024)
- Section 08 14 16, Flush Wood Doors (09/2023)
- Section 08 31 12, Access Doors and Frames (09/2023)
- Section 08 33 23, Overhead Coiling Doors (11/2023)
- Section 08 33 23.13, Overhead Rapid Coiling Doors (03/2024)
- Section 08 33 26, Overhead Coiling Grilles (11/2023)
- Section 10 14 00, Signage (04/2024)
- Section 10 44 13, Fire Protection Cabinets (04/2024)
- Section 10 44 16, Fire Extinguishers (04/2024)
- Section 10 73 43, Transportation Stop Shelters (04/2024)
- Section 10 73 46, Station Platform Shelters (04/2024)

PROCEDURES/POLICIES/MANUALS/FORMS: (CONTINUED)

- Section 10 74 40, Emergency Tunnel Evacuation Cart (10/2022)
- Section 21 05 18, Escutcheons for Fire-Suppression Piping (10/2022)
- Section 21 05 53, Identification for Fire-Suppression Piping and Equipment (10/2022)
- Section 21 12 05, Fire Protection and Suppression (05/2022)
- Section 26 05 26, Grounding and Bonding for Rail Systems (05/2023)
- Section 26 05 72, Overcurrent Protective Device Short-Circuit Study (05/2023)
- Section 26 05 73, Overcurrent Protective Device Coordination Study (05/2023)
- Section 26 05 74, Overcurrent Protective Device – Arc-Flash Study (05/2023)
- Section 26 32 13, Mobile Engine Generator (06/2021)
- Section 26 33 53, Uninterruptible Power Supply for Rail (06/2021)
- Section 26 43 13, Surge Protection for Low-Voltage Electrical Power Circuits (05/2023)
- Section 26 52 13, Emergency and Exit Lighting (08/2023)
- Section 27 00 05, Common Work Results for Telecommunications (11/2021)
- Section 27 00 70, Communications Systems Quality Assurance & Testing (11/2021)
- Section 27 02 30, Communications – Fiber Optic System (01/2022)
- Section 27 17 00, Testing, Identification, and Administration of Balanced Twisted Pair Infrastructure (07/2023)
- Section 27 26 28, Intercom System (09/2022)
- Section 27 32 13.01, Emergency Trip Station Telephones and Cable Replacement (02/2024)
- Section 27 42 16, Passenger and Customer Information and Digital Display Signs (09/2022)
- Section 27 51 16.02, Communications – Public Address System (09/2022)
- Section 28 13 00, Communications – Electronic Access Control Systems (01/2023)
- Section 28 17 00, Intrusion Alarm System (09/2022)
- Section 28 23 11, COMM - Closed-Circuit Television System (09/2022)
- Section 28 31 00, Environmental Air Sampling for Smoke Detection (09/2022)
- Section 28 31 32, Fire Alarm Systems for Passenger Rail Facilities (06/2022)
- SOP 0200-3-02/00, Automatic External Defibrillator Program Management Plan (01/23/2023)
- SOP 1002-3-12/00, Safety On-Call Personnel (04/25/2024)
- SOP 2, Third Rail Power Energization and De-energization Procedures (06/07/2024)
- SOP 4121-3-02/01, Safety Inspections (03/10/2023)
- SOP 4900-3-03/00, Fire Marshal Continuity (02/02/2023)
- SOP 678, Procedure for Managing Fire and Smoke on the Metrorail System (04/22/2024)
- SOP DM-UC-OPM-001, Emergency Trip Station (ETS) Phone Maintenance (03/25/2024)



PROCEDURES/POLICIES/MANUALS/FORMS: (CONTINUED)

- SOP FMNT-SOP 209-07-10, Prioritizing and Documenting Maintenance Work (03/13/2024)
- SOP MTPD-PROP-SOP-001-00, MICC Police Liaison Official (04/24/2024)
- SOP POWER-SOP-02-00, POWER Safety Risk Management (01/31/2024)
- SOP TRPM-SOP14-03, Inoperable Emergency Trip Station (12/07/2022)
- SOP TRPM-SOP20-00, Asset Management Lifecycle Plan (01/2023)
- Sprinkler Standpipe Combination System Quarterly Test Report (03/01/2022)
- Sprinkler Standpipe System 5 Year Test Report (05/01/2016)
- Track and Structures Maintenance Bulletin – Track Shunts (10/2020)
- Virginia Square Station FSE CE Handbook (2023)
- Wet Standpipe System Designation Quarterly Test Report (12/01/2018)
- Wet Standpipe System Quarterly Test Report (03/01/2022)
- Wheaton Metrorail Station FSE CE Handbook 02/26/2023)
- WMATA Continuity of Operations Authority-wide Plan (10/23/2023)
- WMATA Manual of Design Criteria (11/2016)
- WMATA Metrorail System Signage Design Manual (10/2017)
- WMATA Metrorail System Signage Design Manual (2023)
- Work Instruction for Emergency Egress Shaft Inspection (02/01/2024)
- Work Instruction for Monthly Fire Extinguisher Inspections (11/22/2017)
- Work Instruction for Quarterly Emergency Egress Shaft Inspections (02/21/2023)

- Work Instruction for Quarterly Emergency Tunnel Evacuation Cart Inspection (02/21/2023)
- Work Instruction for WMATA Mobile Command Vehicle (11/04/2022)
- Work Instruction POWER-WI-04-00, Corrective Maintenance Work Order Prioritization (04/29/2024)

TRAINING:

- CM Training Matrix (no date)
- Department of Safety Training Matrix (05/2024)
- Emergency Response Exercises (01/2023 to 12/2023)
- ETS Testing Procedure Review (no date)
- Fire and Smoke Training Records (03/2024 to 04/2024)
- Incident Management Framework Training Records (03/2024 to 04/2024)
- Internal OEP Training (01/03/2024)
- MICC Full Scale Exercises Training Records (04/27/2024)
- MICC P&M Training Tracker (no date)
- MICC Phase II CBT: Activation Preparedness Overview Training Records (01/2024)
- MICC Rail Section – MOR Radio Communication Protocols Training Records (04/2024)
- MICC Rail Section Tabletop Exercises Training Records (05/16/2024)
- MICC Rail Section Tabletop Exercises Training Records (2/28/2024)

TRAINING: (CONTINUED)

- MICC Rail Traffic Controller Ride-Along ELM Training Records (12/2023 to 05/2024)
- MICC Rail Traffic Controller Roles and Responsibilities Training Records (01/2024)
- MICC Severe Weather Training Records (02/2024)
- MICC-ROC-TMP-01 MICC Rail Section Training Matrix (04/08/2024)
- OEP P&M Training Tracker (no date)
- OEP RRC Jurisdictional Training Numbers (01/2023 to 12/2023)
- RRC Course Evaluation QR Code (no date)
- RRC Course Evaluation Responses (06/26/2024)
- RRS Training Tracker (no date)
- RRS Training Tracker (no date)
- RRS Training Tracker (no date)
- RTC Annual Recertification Training Records (02/2024 to 06/2024)
- RWP ELM Training Records (01/2024 to 06/2024)
- Tabletop and Full-Scale Exercise Schedule (01/2023 to 12/2025)
- TRPM Asset Management Lifecycle Plan (01/2023)

INSPECTION AND MAINTENANCE:

- 2023 Inspection Tracker (01/2024 to 12/2024)
- 2023 WMATA Emergency Egress Inspection Reports (no date)
- 2024 Re-Inspection Schedule (no date)
- 2024 WMATA Emergency Egress Inspection Reports (no date)
- 2024 WMATA Inspection Schedule (no date)
- AED Inventory Report (06/26/2024)
- Daily Field Reports (02/2024 to 05/2024)
- ETS CM Reports (01/2023 to 12/2024)
- ETS Inspection and Trip Verification Log (02/2020)
- ETS Outages (10/23/2024)
- ETS PMI Reports (01/2023 to 12/2024)
- ETS Telephone Communication Assets List (no date)
- ETS Testing Log (01/2023 to 08/2023)
- ETS Work Orders (01/2023 to 12/2024)
- FLS Inspections (08/2024 - 09/2024)
- GOTRS Track Rights Requests (10/2024)
- GOTRS Track Rights Requests (10/2024)
- High Voltage Gloves Inventory List (no date)
- Inspection Tracker (07/01/2024)
- Memorandum on ETEC Cabinet Cleaning Services (08/13/2024)
- Memorandum on Fire Alarm System Inspections for August (08/14/2024)
- Memorandum on Out of Service Life Safety Equipment
- Memorandum on Warning Strobe and Alarm Device Calibration Log (06/04/2024)
- Memorandum Outlining WMATA's Communication Systems (08/13/2024)
- Memorandum Outlining WMATA's Land Mobile Radio Systems (08/13/2024)

INSPECTION AND MAINTENANCE: (CONTINUED)

- Metro Center Daily Labor Report (02/14/2024)
- N06-N07 ETS Test (no date)
- OEM Warning Strobe and Alarm Device Inventory Report (06/26/2024)
- PLNT Escort Daily Reports (02/2024 to 05/2024)
- Preventive Maintenance Inspection for Emergency Trip Station (ETS) Enclosure Inspection and Trip Verification Test (08/15/2024)
- Preventive Maintenance Inspection for Emergency Trip Station (ETS) & Monitoring System (03/29/2024)
- Preventive Maintenance Inspection PWR 1251.1 for Third Rail Heat Tape System with Electromechanical Controller (09/19/2023)
- Preventive Maintenance Inspection PWR 1251.2 for Third Rail Heat Tape System for Dulles Phase II (02/27/2024)
- RSDAR Reports (no date)
- RTRA Safety Glove Certification Status Quarterly Report (06/27/2024)
- RTRA Safety Glove Certification Status Quarterly Report (06/27/2024)
- Structural engineering Emergency Egress Shaft Inspection Schedule (08/2024 - 09/2024)
- TCLP Sample Test Results (02/14/2024)
- Trauma Kits Inventory Report (no date)
- Work Order – ETS Inspection and Trip Verification Test Plan (01/17/2023)
- Work Order – ETS Inspection and Trip Verification Test Plan (08/01/2023)
- Work Order – ETS Inspection and Trip Verification Test Plan (08/08/2023)
- Work Order List – Backflow (08/2024)
- Work Order List – Dry Sprinkler (09/2024)
- Work Order List – Emergency Egress (08/2024 - 09/2024)
- Work Order List - ETS Phone Inspection (10/2024 to 12/2024)
- Work Order List – Fire Extinguishers (09/2024)

- Work Order List – Fire Pumps (09/2024)
- Work Order List – Jet Fans (08/2024)
- Work Order List – Tunnel Fans (08/2024 - 09/2024)
- Work Order List – Wet Sprinkler (09/2024)
- Work Order List – Wet Standpipe (09/2024)
- WT Calibration Certification (no date)

INTERNAL REVIEWS:

- OEP Internal Safety Review (02/23/2024)
- QICO-OEP-24-01 Internal Corrective Action Plan (02/22/2024)
- QICO-OEP-24-02 Internal Corrective Action Plan (03/01/2024)
- QICO-OEP-24-03 Internal Corrective Action Plan (02/22/2024)
- QICO-OEP-24-04 Internal Corrective Action Plan (02/22/2024)
- QICO-OEP-24-05 Internal Corrective Action Plan (02/22/2024)
- QICO-OEP-24-06 Internal Corrective Action Plan (02/22/2024)
- WMATA Internal Safety Review Report of Facilities Fire/Life-Safety (06/24/2024)
- After Action Report, National Airport, Derailment (11/17/2023)
- After Action Report, Ballston, Smoke Incident (12/22/2022)

INTERNAL REVIEWS: (CONTINUED)

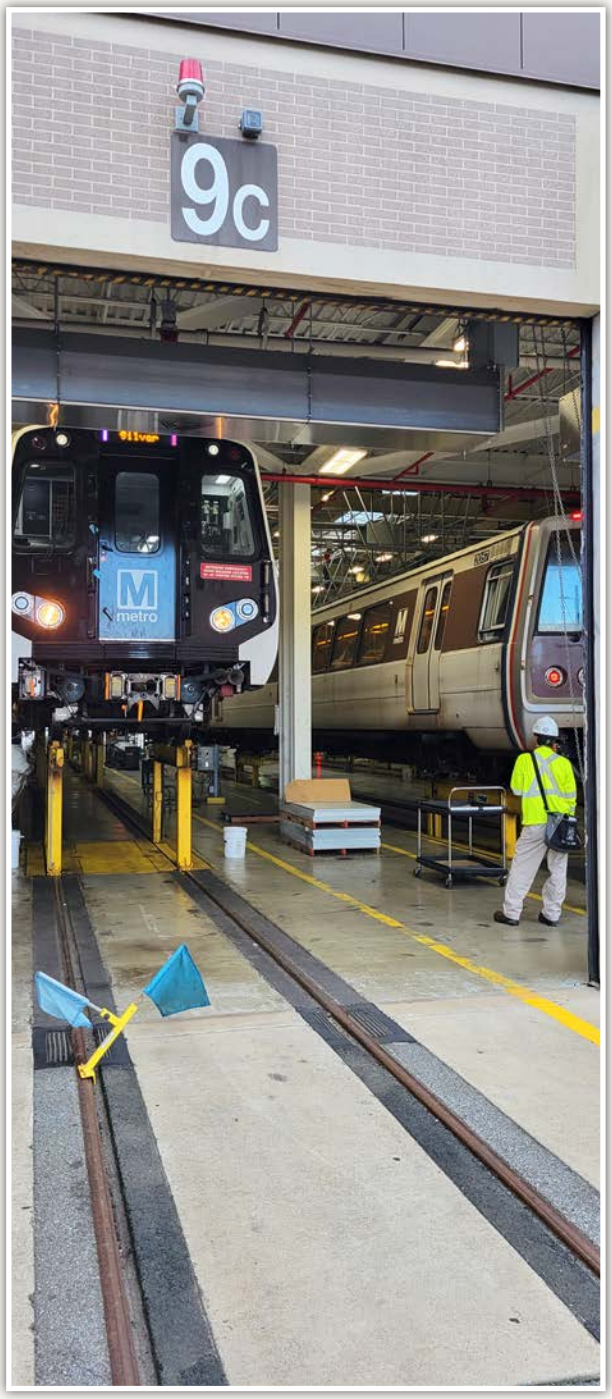
- After Action Report, Ballston, Red Signal Overrun (11/09/2023)
- After Action Report, Blue Line, Derailment (04/19/2022)
- After Action Report, Branch Avenue, Smoke/Fire Incident (05/16/2023)
- After Action Report, Clarendon, Smoke/Evacuation Incident (03/29/2023)
- After Action Report, Court House Station, Smoke/Evacuation Incident (12/22/2022)
- After Action Report, Foggy Bottom, Medical Emergency Incident (12/22/2022)
- After Action Report, Forest Glen, Incident (09/20/2023)
- After Action Report, Jackson Graham, Water Leak (02/02/2023)
- After Action Report, Navy Yard, Incident (07/06/2023)
- After Action Report, Judiciary Square, Incident (05/31/2023)
- After Action Report, L'Enfant Plaza Station, Evacuation (01/06/2023)
- After Action Report, L'Enfant Plaza Station, Collision (04/13/2022)
- •After Action Report, Minnesota Ave, Train Disablement (10/11/2022)
- After Action Report, New Carrollton, Medical Emergency (02/21/2023)
- After Action Report, Pentagon City Station, Incident (05/22/2023)
- After Action Report, Brookland, Incident (06/23/2022)
- After Action Report, Potomac Yard, Train Disablement/ Evacuation (08/22/2023)
- After Action Report, Rhode Island Avenue, Incident (07/03/2023)
- After Action Report, Spring Hill, Red Signal Overrun (01/02/2024)
- After Action Report, Van Ness, Smoke/Evacuation Incident (03/29/2023)
- After Action Report, West Falls Church, Smoke/Fire Incident (03/21/2023)
- After Action Report, Spring Hill Traction Power Substation, Fire/Smoke Incident (03/15/2022)
- After Action Report, WMATA 2021-2022 Silver Line Exercise Series (10/2022)
- After Action Report, Improvement Action Status (07/01/2024)
- After Action Report, Eastern Market, Smoke/Fire Incident (03/11/2023)
- After Action Reports Highlighting Positives (09/09/2024)

OTHER DOCUMENTS

- MICC Mission Assurance Coordinator Transition System Certification of Compliance Package (07/03/2024)
- Memorandum on the FY2025-FY2030 Capital Improvement Program (07/01/2024)
- SMS Entries (10/01/23 to 12/31/23)
- Hazard Tracking Log (06/2021 to 03/2024)
- Smoke, Fire, Spill Events (07/2021 to 05/2024)
- FY2025-FY2030 Capital Improvement Program & 10-Year Plan (06/2024)
- 2023 & 2024 Fire/Smoke Events (11/13/2024)

Appendix D: (PTASP) Elements

1. **General Requirements**
   - b. Emergency Preparedness and Response
   - c. Infectious Disease Mitigation
   - d. Safety Performance Targets
   - e. Development and Implementation of a Safety Management System (SMS)
2. **Safety Management Policy**
   - a. Safety Reporting Program
   - b. Communication of the Safety Management Policy
   - c. Organizational SMS Accountabilities and Responsibilities
3. **Safety Risk Management**
   - a. Safety Risk Management (SRM) Process
   - b. Ongoing Management of Safety Risk
   - c. Occupational Safety and Health Risk Management
   - d. Operational Safety Risk Management
   - f. Safety Certification
4. **Safety Assurance**
   - a. Performance Monitoring and Measurement
   - b. Documentation
   - d. Event Reporting and Investigations
   - e. Change Management
   - f. Corrective Action Plans
5. **Safety Promotion**
   - a. Competencies and Training
   - b. Safety Communication
   - c. Safety Committees
   - d. Hazardous Materials and Environmental Management
   - e. Safety Reporting Program Engagement



Appendix E: Life Safety Asset Observations List

This is a list of issues identified during the WMSC's Audit of Emergency Management and Life Safety on-site observations that took place on September 11 and 12 of 2024. All issues were communicated to the WMATA personnel on-site at the time of the observation. For each issue identified by WMSC personnel, WMATA personnel either addressed the issue immediately (mitigated on-site) or indicated that the issue would be addressed after the observation by way of a work order. For each item that was not mitigated on-site, please provide an update with verification information such as photos, work orders, or other appropriate responses.

Item #	Station or Nearest Station Location	Specific Location Identifier	Issue Observed	Identified to Metrorail personnel during inspection	Mitigated On-site?	Code Violation	Notes
FIRE EXTINGUISHERS							
1	**Rosslyn**	Room 113	A fire extinguisher is past due for inspection and another fire extinguisher was stored on the ground but must be mounted on the wall.	Yes	No	Yes	
2	**Foggy Bottom**	Kiosk	A fire extinguisher is past due for inspection and is missing previous inspections.	Yes	No	Yes	
3	**Medical Center**	Room 210	The room is missing a fire extinguisher and contains cooking appliances.	Yes	No	No Appliances are in a room protected by a sprinkler system	
4	**Medical Center**	Room 212	The fire extinguisher must be mounted on the wall.	Yes	No	Yes	
5	**Bethesda**	Room 200	The fire extinguisher was on the ground and had been previously used but not replaced.	Yes	No	Yes	
6	**Friendship Heights**	Room C224	This room requires a fire extinguisher or the cooking appliances must be removed.	Yes	No	No Appliances are in a room protected by a sprinkler system	
7	**Tenleytown**	Room C205	This room requires a fire extinguisher given the combustible materials in it.	Yes	No	No Appliances are in a room protected by a sprinkler system	
8	**Wheaton**	Room 113	In the Dispatcher's office, the fire extinguisher is past due for inspection (last inspected in May 2024).	Yes	No	Yes No access	Room 108 fire extinguisher was signed (Wheaton)
9	**Wheaton**	Room 107	In the Electrical Equipment Room, the fire extinguisher is past due for inspection (last completed in May 2024).	Yes	No	Yes No access	Low Voltage Opened Work Order #18924711
10	**Forest Glen**		A fire extinguisher is past due for inspection.	Yes	No	Yes (Construction Crew)	
11	**Navy Yard**	Room 107	In the Comms room, the fire extinguisher has no inspection tag and improperly stored.	Yes	No	Yes	Room 107 fire extinguisher properly stored and tag was placed on the extinguisher. (Navy Yard)

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Item #	Station or Nearest Station Location	Specific Location Identifier	Issue Observed	Identified to Metrorail personnel during inspection	Mitigated On-site?	Code Violation	Notes
STATION FIRE LIFE SAFETY (FLS) EQUIPMENT							
12	**Farragut West**	Ancillary Room	The backflow prevention maintenance was last done in November 2022 when WMATA's job plan states this should be conducted annually.	Yes	No	Yes	Opened on 8/16/2024 and completed 9/20/2024
13	**Forest Glen**	Room 618	The fire control valve is missing the plastic/brass fire department connection (FDC) cover.	Yes	No	Yes	
14	**Tenleytown**	Room C205	The backflow prevention equipment marked as failed (2 locations/tags) but did not indicate when it would be fixed. The date on the failed tag was blank. Last marked as tested on 5/4/2023; however, the preventive maintenance inspection requirement is annual (now past due).	Yes	No	Yes	Repairs and retest was performed on 5/15/2023 which passed. New test performed on 9/18/2024 under WO 18926854. Need replacement and completion ETA 9/25
15	**Wheaton**	Room C506	Cleaners room is missing a flow cover for the fire equipment box.	Yes	No	Yes	
16	**Navy Yard**	Room 100	The fire safety equipment cabinet (100) has trash and debris stored inside.	Yes	Yes	Yes	
17	**Anacostia**	Room 305	The fire safety equipment cabinet (305) doors are blocked by signs, chairs, and trash.	Yes	Yes	Yes	
18	**Wheaton**	Room 108	In the Comms Room there is a chair blocking the fire panel and the battery for the panel was an incorrect size, not allowing the door to be closed.	Yes	No	Yes	Chair & debris removed. New cabinet ordered. Room 108 batteries were changed so the door could close and the chair was moved. (Wheaton)
19	**Forest Glen**	Room 618	The fire cabinet door is held open with twisted wire.	Yes	No	Yes	
20	**Anacostia**	Room 300	The fire safety equipment (300) doors are blocked by chairs.	Yes	Yes	Yes	
21	**Wheaton**	Room C508	The fire equipment room cabinet has unauthorized equipment stored (extension cords and wood pieces).	Yes	No	Yes	
22	**Wheaton**	Room C508	A pipe is protruding through an opening into the fire cabinet. The pipe appears to be a vent pipe for the adjacent bathroom.	Yes	No	Yes	This is a clean out pipe. Needs to be removed.
23	**Forest Glen**	Room 618	The fire equipment cabinet is being used for general storage.	Yes	No	Yes	
STATION MAINTENANCE							
24	**Capital Heights**	Room 205	There is water intrusion in the room. Water intrusion is such that the entry door is corroding.	Yes	No	No	
25	**McPherson Square**	Mezzanine	The gate at the bottom of the escalators was unable to be properly closed/opened. This was actively being worked on, on September 11, 2024.	Yes	No	No	
26	**Wheaton**	Room C505	In the Ejector Room, the door is making contact with the above-mounted heater.	Yes	No	Yes	
27	**Bethesda**	Room 111	Fall protection chains were available over a pit but were not set up as it should be when work was not being conducted.	Yes	Yes	Yes	
28	**Tenleytown**	Room 102	Materials must be removed or placed on an appropriate spill pallet.	Yes	No	Yes	

Appendix E: Life Safety Asset Observations List

Item #	Station or Nearest Station Location	Specific Location Identifier	Issue Observed	Identified to Metrorail personnel during inspection	Mitigated On-site?	Code Violation	Notes
ELECTRICAL HAZARDS							
29	**Bethesda**	Room 106	Extension cords were plugged in where water was present. Immediate electrocution and tripping hazards were mitigated on site by unplugging the extension cords and moving out of the middle of the floor. The door was also propped open by a canister with unknown contents, which had leaked due to corrosion.	Yes	No	Yes	
30	**Friendship Heights**	Mezzanine	There is a known water intrusion issue in the process of being fixed. Please ensure that the electricity is properly turned off in the leak area.	Yes	No	No	
31	**Friendship Heights**	Room C210	There is an extension cord in permanent use (painted onto the wall).	Yes	No	Yes	
32	**McPherson Square**	Station Entrance	To open the gate at the top of the escalators, the Station Manager must reach into an electrical panel to activate the gate, but the only reachable spot to do so regularly has water on the ground.	Yes	No	Yes	The switch can only be located behind a locked door as it is a push button by design will work with engineering to redesign
33	**Tenleytown**	Track 2	There is an extension cord in what appears to be permanent use based on the age and condition of the cord.	Yes	No	Yes	Low Voltage ran conduit and power in place of the extension cord (Figure 01 and Figure 02).
EGRESS, AREAS OF REFUGE, AND AREAS OF RESCUE							
34	**Wheaton**	Room C500	The egress path is blocked by a ladder, rake, box barrel, and other trash.	Yes	No	Yes	Power personnel investigated all items in the area except a 14 ft ladder belong to Plant Maintenance. As of 9/23/2024, the 14-foot ladder has been removed.
35	**Forest Glen**	Area of Refuge	Non-storage area is being used for storage of tool carts, a shopping cart, black plastic bins, and ladders.	Yes	No	Yes	Currently there is a project underway for fan upgrade.
36	**Forest Glen**	Area of Refuge 607	The door to leave the room is missing the lock cylinder for the key. Personnel cannot exit through the door. We had to exit the room from the other side.	Yes	No	Yes	
37	**Wheaton**	Escalators area	At the platform level, there is a permanent tripping hazard due to a pipe connected and running over the parapet wall.	Yes	No	Yes	
38	**Wheaton**	Emergency path	At the normally outbound end of the platform, the emergency path is blocked by ladders, carts, a manlift, oil, toolboxes, chairs, and other items.	Yes	No	Yes (Construction Debris)	
39	**Wheaton**	Emergency Exit from Train Level	The emergency exit stairs to upper-level street exit are blocked by a large piece of concrete.	Yes	Yes	Yes	
40	**Wheaton**	Tunnel Wall	Adjacent to emergency exit, the emergency exit to the next station sign is blocked by installed cables.	Yes	No	Yes	
41	**Wheaton**	Vent Shaft (VB-12)	The emergency exit stairs to street in the vent shaft are blocked with large tarp and tool bag on second step.	Yes	Yes	Yes	
42	**Wheaton**	Vent Shaft (VB-12)	Versa Guard Gates blocking the vent from remote operation.	Yes	Yes	Yes	
43	**Forest Glen**	Area of Refuge	The first landing area has trash that needs to be removed, and the wall covers (covering wiring/piping) need to be replaced.	Yes	No	Yes (Construction Debris)	

Appendix E: Life Safety Asset Observations List

Item #	Station or Nearest Station Location	Specific Location Identifier	Issue Observed	Identified to Metrorail personnel during inspection	Mitigated On-site?	Code Violation	Notes
44	**Congress Heights**	Room 114	In the Area of Rescue (non-storage area) has a ladder being stored.	Yes	No	Yes	
45	**Congress Heights**	Room C224	Area of Rescue (non-storage area) has ladders, signs electrical boxes, two station platform cleaning machines, and miscellaneous trash being stored.	Yes	No	Yes	
46	**Congress Heights**	Hall of non-public area	Hall to Area of Rescue (non-storage area) has boxes, bins, and a bucket being stored.	Yes	No	Yes	
47	**Anacostia**	Room 101	In the Area of Rescue (non-storage area) there are multiple signs, a bucket with trash, and metal grates being stored.	Yes	No	Yes	
48	**Anacostia**	Room 107	The door to the upper level, an egress area, has a shopping cart and buckets being stored.	Yes	No	Yes	
49	**Anacostia**	Room 111	In the train operator room, the egress is blocked by cables on the floor and a large table.	Yes	No	Yes	The cables were moved from the middle of the floor and the table was moved in the room to clear the egress issue.
EMERGENCY TRIP STATIONS (ETS)							
50	Dunn Loring to West Falls Church	ETS Box K140 K07-32,42	The panel under this ETS box is missing a cover, wires are exposed.	Yes	No	Yes	ETS Box K140 has been repaired (Figure 03).
51	**Dunn Loring to West Falls Church**	ETS Box K131 K07-43 K06-53	The ETS box is tagged with a yellow repair tag and is inoperable.	Yes	No	Yes	Procedure TRPM-SOP 14-03 (*inoperable Emergency Trip Station Procedure*) states that "*the inoperable ETS is repaired as soon as possible, schedule and ensure standby coverage in rooms and platforms as described in this policy until remediation and ensure that the Assistant Superintendent/Superintendent is notified of the ETS issue.*" The statement is referring to the yellow tag that is placed on ETS Boxes as shown on page 25-29. The ETS Boxes that are currently tagged with only yellow tag are tagged for the ETS phone outage not for the Emergency Trip Stations (ETS) outage farther more the mentioned procedure TRPM-SOP 14-03 (Inoperable Emergency Trip Station Procedure) clearly state out of service ETS should be tagged with Red X and red tag. The yellow Tags are placed per DMUC-CPM-001 (*Department of Digital Modernization Standard Operating Procedures Emergency Trip Station (ETS) Phone Maintenance*) only for ETS Telephone outage.
52	**Dunn Loring to West Falls Church**	ETS Box K127 K07-43 K06-53	The ETS box is tagged with a yellow repair tag and is inoperable.	Yes	No	Yes	Procedure TRPM-SOP 14-03 *(Inoperable Emergency Trip Station Procedure*) states that "*the inoperable ETS is repaired as soon as possible, schedule and ensure standby coverage in rooms and platforms as described in this policy until remediation and ensure the Assistant Superintendent/Superintendent is notified of the ETS issue.*" The statement is referring to the yellow tag that is placed on ETS Boxes as shown on page 25-29. The ETS Boxes that are currently tagged with only yellow tag are tagged for the ETS phone outage not for the Emergency Trip Stations (ETS) outage farther more the mentioned procedure TRPM-SOP 14-03 (Inoperable Emergency Trip Station Procedure) clearly state out of service ETS should be tagged with Red X and red tag. The yellow Tags are placed per DMUC-OPM-001 (*Department of Digital Modernization Standard Operating Procedures Emergency Trip Station (ETS) Phone Maintenance*) only for ETS Telephone outage.

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Item #	Station or Nearest Station Location	Specific Location Identifier	Issue Observed	Identified to Metrorail personnel during inspection	Mitigated On-site?	Code Violation	Notes
53	**Dunn Loring to West Falls Church**	ETS Box K143 K07-31,41	The ETS box is tagged with a yellow repair tag and is inoperable.	Yes	No	Yes	Procedure TRPM-SOP 14-03 *(Inoperable Emergency Trip Station Procedure)* states that *"the inoperable ETS is repaired as soon as possible, schedule and ensure stand by coverage in rooms and platforms as described in this policy until remediation and ensure that the Assistant Superintendent/Superintendent is notified of the ETS issue."* The statement is referring to the yellow tag that is placed on ETS Boxes as shown on page 25-29. The ETS Boxes that are currently tagged with only yellow tag are tagged for the ETS phone outage not for the Emergency Trip Stations (ETS) outage farther more the mentioned procedure TRPM-SOP 14-03 (Inoperable Emergency Trip Station Procedure) clearly state out of service ETS should be tagged with Red X and red tag. The yellow Tags are placed per DMUC-OPM-001 (*Department of Digital Modernization Standard Operating Procedures Emergency Trip Station (ETS) Phone Maintenance*) only for ETS Telephone outage.
54	**Dunn Loring to West Falls Church**	ETS Box K135 K07- 31, 41, 43 K06-53	The ETS box is tagged with a yellow repair tag and is inoperable.	Yes	No	Yes	Procedure TRPM-SOP 14-03 *(Inoperable Emergency Trip Station Procedure)* states that *"the inoperable ETS is repaired as soon as possible, schedule and ensure stand by coverage in rooms and platforms as described in this policy until remediation and ensure that the Assistant Superintendent/Superintendent is notified of the ETS issue."* The statement is referring to the yellow tag that is placed on ETS Boxes as shown on page 25-29. The ETS Boxes that are currently tagged with only yellow tag are tagged for the ETS phone outage not for the Emergency Trip Stations (ETS) outage farther more the mentioned procedure TRPM-SOP 14-03 (Inoperable Emergency Trip Station Procedure) clearly state out of service ETS should be tagged with Red X and red tag. The yellow Tags are placed per DMUC-OPM-001 (*Department of Digital Modernization Standard Operating Procedures Emergency Trip Station (ETS) Phone Maintenance*) only for ETS Telephone outage.
55	**Dunn Loring to West Falls Church**	ETS Box K129	The ETS box is marked with red "X" along with a yellow repair tag.	Yes	No	Yes	Red X was Removed (Figure 04).
56	**Dunn Loring to West Falls Church**	ETS Box K137 K07- 31, 41	The ETS box is tagged with a yellow repair tag and is inoperable.	Yes	No	Yes	Procedure TRPM-SOP 14-03 *(Inoperable Emergency Trip Station Procedure)* states that *"the inoperable ETS is repaired as soon as possible, schedule and ensure stand by coverage in rooms and platforms as described in this policy until remediation and ensure that the Assistant Superintendent/Superintendent is notified of the ETS issue."* The statement is referring to the yellow tag that is placed on ETS Boxes as shown on page 25-29. The ETS Boxes that are currently tagged with only yellow tag are tagged for the ETS phone outage not for the Emergency Trip Stations (ETS) outage farther more the mentioned procedure TRPM-SOP 14-03 (Inoperable Emergency Trip Station Procedure) clearly state out of service ETS should be tagged with Red X and red tag. The yellow Tags are placed per DMUC-OPM-001 (*Department of Digital Modernization Standard Operating Procedures Emergency Trip Station (ETS) Phone Maintenance*) only for ETS Telephone outage.

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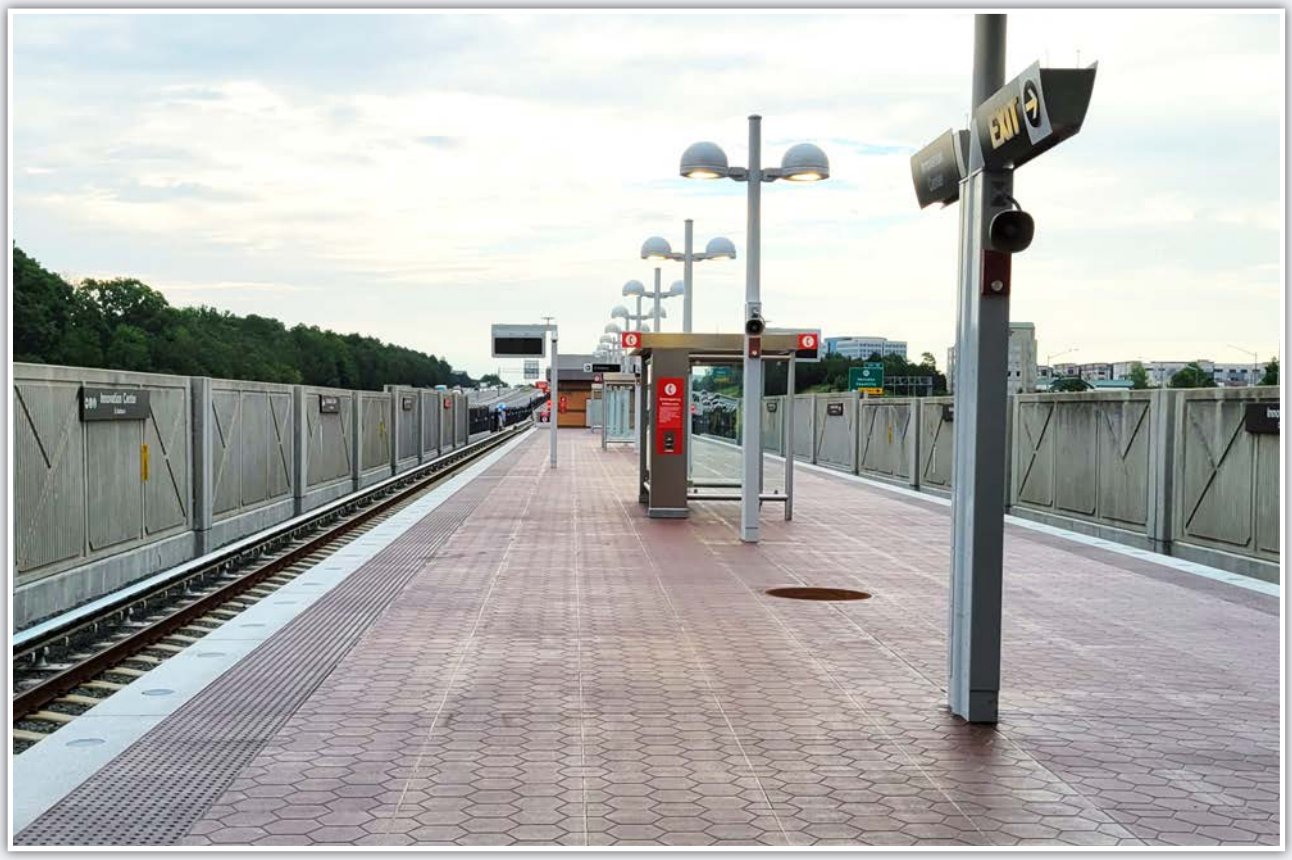
Item #	Station or Nearest Station Location	Specific Location Identifier	Issue Observed	Identified to Metrorail personnel during inspection	Mitigated On-site?	Code Violation	Notes
57	**Dunn Loring to West Falls Church**	ETS Box K2-610	The ETS box is marked with a red "X" with no yellow repair tag.	Yes	No	Yes	ETS was checked for functionality and Red X was removed (Figure 05, 06, and 07)
58	**Dunn Loring to West Falls Church**	ETS Box K123 K06-51 K06/K99-37	The ETS box is tagged with a yellow repair tag and is inoperable.	Yes	No	Yes	Procedure TRPM-SOP 14-03 *(Inoperable Emergency Trip Station Procedure)* states that *"the inoperable ETS is repaired as soon as possible, schedule and ensure stand by coverage in rooms and platforms as described in this policy until remediation and ensure that the Assistant Superintendent/Superintendent is notified of the ETS issue."* The statement is referring to the yellow tag that is placed on ETS Boxes as shown on page 25-29. The ETS Boxes that are currently tagged with only yellow tag are tagged for the ETS phone outage not for the Emergency Trip Stations (ETS) outage farther more the mentioned procedure TRPM-SOP 14-03 (Inoperable Emergency Trip Station Procedure) clearly state out of service ETS should be tagged with Red X and red tag. The yellow Tags are placed per DMUC-OPM-001 (*Department of Digital Modernization Standard Operating Procedures Emergency Trip Station (ETS) Phone Maintenance*) only for ETS Telephone outage.



Appendix F: Safety Event Investigations that Identified Radio Deficiencies

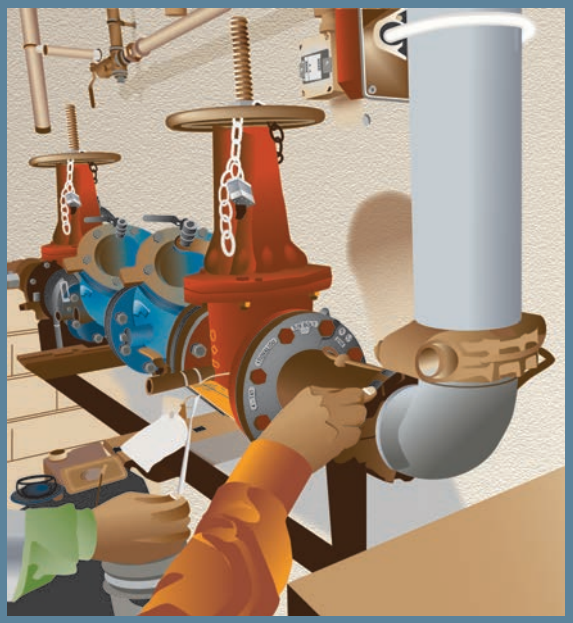
Report ID	WMATA Report ID	Event Date	Event Location	Line Location	Event Code
W-0021	E19188	4/16/2019	Wiehle Reston (N06) Tail Track	N	O-19, Undesired Uncoupling
W-0041	E20007	1/4/2020	Shady Grove Yard, Car Maintenance Shop	A	I-4: Collision (minor)
W-0055	E20297	8/11/2020	New Carrollton Yard, Track 9	D	O-7: Improper Rail Vehicle Movement
W-0062	E20341	9/9/2020	Anacostia Interlocking	F	O-23: Improper Roadway Worker Protection (RWP)
W-0064	E20350	9/15/2020	Greenbelt Yard, Track 15	E	O-8: Red Signal Overrun
W-0081	E20244	7/7/2020	Silver Spring Station, Track 1	B	A-5: Derailment
W-0084	E20488	12/13/2020	Fort Totten Station, Track 2	E	I-5, Customer Evacuation
W-0100	E21050	2/5/2021	U Street-Cardozo Station, Tracks 1 and 2	E	O-23: Improper Roadway Worker Protection (RWP)
W-0114	E21149	4/15/2021	Greensboro Station, Track 1	N	A-4: Evacuation for Life Safety Reasons
W-0116	E21123	3/26/2021	Rhode Island Avenue Station, Track 1	B	A-6(a) Runaway Train
W-0118	E21042	2/1/2021	West Falls Church Yard – Signal K99-98	K	O-8: Red Signal Overrun
W-0122	E21256	6/23/2021	Drainage Pumping Station CM A1 510+98	A	O-23: Improper Roadway Worker Protection (RWP)
W-0128	E21371	8/16/2021	Franconia-Springfield, Track 2	J	O-7: Improper Rail Vehicle Movement
W-0129	E21376	8/18/2021	Largo Town Center Station, Track 2, Signal G5-08	G	O-8: Red Signal Overrun
W-0138	E21339	8/1/2021	Metro Center Station, Track 2	C	A-4: Evacuation for Life Safety Reasons
W-0140	E21471	9/28/2021	Twinbrook Station Interlocking at A13-02 Signal	A	O-8: Red Signal Overrun
W-0141	E21429	9/9/2021	Twinbrook Station, Track 1	A	O-23: Improper Roadway Worker Protection (RWP)
W-0144	E21441	9/12/2021	Forest Glen Station	B	A-4: Evacuation for Life Safety Reasons
W-0147	E21513	10/22/2021	Between Gallery Place and Mt Vernon Station's Track 2	E	A-4: Evacuation for Life Safety Reasons
W-0150	E21579	11/14/2021	Federal Center SW Station, Track 1	D	A-4: Evacuation for Life Safety Reasons
W-0180	E22278	5/6/2022	Stadium-Armory Station, track 2	D	O-15(a): Improper Door Operation
W-0184	E22365	6/15/2022	King Street Station, Track 2	C	O-23: Improper Roadway Worker Protection (RWP)
W-0186	E22386	6/23/2022	McPherson Square Station, Track 2	C	O-7: Improper Rail Vehicle Movement
W-0188	E22300	5/15/2022	Between Brookland-CUA & Rhode Island Avenue Stations, Track #2 at Chain Marker (CM) B2 192+00	B	A-1: Fatality (Person Struck by Train)
W-0195	E22451	7/30/2022	Between Woodley Park Station and Dupont Circle Station, CM A1 80+00	A	A-4: Evacuation for Life Safety Reasons
W-0197	E22581	9/9/2022	Eastern Market, Track 2	D	A-4: Evacuation for Life Safety Reasons

Appendix F: Safety Event Investigations that Identified Radio Deficiencies

Report ID	WMATA Report ID	Event Date	Event Location	Line Location	Event Code
W-0198	E22607	9/19/2022	Rhode Island Avenue Station	B	A-4: Evacuation for Life Safety Reasons
W-0201	E22724	11/7/2022	Court House Station	K	A-4: Evacuation for Life Safety Reasons
W-0203	E22572	9/1/2022	L'Enfant Station	F	A-4: Evacuation for Life Safety Reasons
W-0210	E22585	9/10/2022	Greenbelt Yard - Outer Loop at the grade crossing	E	A-5: Derailment
W-0216	E22804	12/11/2022	Anacostia Station	F	A-3: Collision
W-0219	E23018	1/7/2023	Alexandria Rail Yard - Roadway Crossing (East)	C	I-3: Collision (minor)
W-0226	E22399	6/26/2022	CSX Property adjacent to Chain Marker C2 530+00 Braddock Road, Track 2	C	A-2: Serious Injury
W-0230	E23092	2/10/2023	Georgia Avenue Station	E	A-4: Evacuation for Life Safety Reasons
W-0234	E23141	2/26/2023	Wheaton Station - Track 1 CM B1 625+00	B	O-23: Improper Roadway Worker Protection (RWP)
W-0246	E23237	4/9/2023	Pentagon City Station	C	A-4: Evacuation for Life Safety Reasons
W-0251	E23341	5/21/2023	Metro Center Station	C	I-3: Collision (minor)
W-0252	E23616	9/3/2023	Ronald Reagan Washington National Airport Station, track 2	C	A-4: Evacuation for Life Safety Reasons
W-0254	E23591	8/23/2023	Rhode Island Avenue Station (B04) Track 1	B	A-3: Collision
W-0259	E23377	6/5/2023	Between East Falls Church and Ballston Stations - CM K2 315+00	K	A-3: Collision
W-0266	E23373	6/4/2023	East Falls Church Station CM K1 357+30	K	A-5: Derailment
W-0272	E23894	12/18/2023	Farragut North, Track 3	A	A-5: Derailment
W-0274	E23430	6/24/2023	Addison Road Station, track 1	G	O-7: Improper Rail Vehicle Movement
W-0300	E23154	3/7/2023	West Hyattsville Station, Track 1	E	O-15(a): Improper Door Operation
W-0303	E23592	8/23/2023	Smithsonian Station, track 1	D	O-15(a): Improper Door Operation
W-0306	E23514	7/23/2023	National Airport, track 1 – Signal C10-36	C	O-8: Red Signal Overrun
W-0307	E23838	11/19/2023	West Falls Church Yard – Signal K99-302	K	O-8: Red Signal Overrun
W-0311	E23666	9/23/2023	Federal Center SW Station, Track 1	D	O-7: Improper Rail Vehicle Movement
W-0312	E23840	11/20/2023	Huntington Station, Track 2 - Switch 1A	C	O-7: Improper Rail Vehicle Movement
W-0313	E23131	2/25/2023	College Park Station	E	O-23: Improper Roadway Worker Protection (RWP)
W-0314	E23190	3/20/2023	Forest Glen Station, Track 2 CM B2 563+00	B	O-23: Improper Roadway Worker Protection (RWP)
W-0315	E23244	4/11/2023	Potomac Avenue Station, track 1	D	O-23: Improper Roadway Worker Protection (RWP)
W-0316	E23376	6/5/2023	Ballston - MU Station, Track 2	K	O-23: Improper Roadway Worker Protection (RWP)
W-0317	E23565	8/15/2023	Wiehle-Reston East Station, track 1 CM N1 883+00	N	O-23: Improper Roadway Worker Protection (RWP)

Appendix F: Safety Event Investigations that Identified Radio Deficiencies

Report ID	WMATA Report ID	Event Date	Event Location	Line Location	Event Code
W-0319	E23732	10/17/2023	Morgan Boulevard Station, G1 520+00	G	O-23: Improper Roadway Worker Protection (RWP)
W-0320	E23768	10/28/2023	Southern Avenue Station, Track 2	F	O-23: Improper Roadway Worker Protection (RWP)
W-0324	E23819	11/12/2023	Stadium-Armory Station, track 1	D	O-15(a): Improper Door Operation
W-0329	E24005	1/3/2024	New Carrollton Yard, Signal D99-42	D	O-8: Red Signal Overrun
W-0333	E24083	1/26/2024	Spring Hill Station, track 2	N	O-23: Improper Roadway Worker Protection (RWP)
W-0335	E23452	7/4/2023	College Park Station, track 1	E	O-23: Improper Roadway Worker Protection (RWP)



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