



WMSC Commissioner Brief: W-0117 – Improper Roadway Worker Protection – C&A Connector – June 5, 2021

Prepared for Washington Metrorail Safety Commission meeting on October 26, 2021

Safety event summary:

Work crews in the area where a non-revenue track (C&A Connector) connects the Red Line to the Blue, Orange and Silver Lines near Farragut West and Farragut North stations did not effectively communicate, leading to third rail power being improperly restored while personnel were on the roadway.

This event involved three work crews, the Rail Operations Control Center (ROCC), and associated supervision.

The Roadway Worker In-Charge (RWIC) for a work crew working on radio installation between Foggy Bottom and McPherson Square Stations on the C Line (Blue, Orange and Silver) was listed in the General Orders and Track Rights System (GOTRS) as senior RWIC with one other crew listed as a piggybacking work crew in that work area.

The other crew's RWIC, listed as junior RWIC in relation to the C Line work area, was listed as the lead RWIC on the A Line (Red Line) end of the C&A Connector.

The Red Line RWIC requested and received permission from the ROCC's Red Line (Ops 1) desk to enter the roadway and establish exclusive track occupancy (ETO) protection on the Red Line, including the use of two Roadway Maintenance Machines (RMMs).

The Orange Line RWIC requested and received permission from the ROCC's Ops 2 desk to enter the roadway and establish protection on the Blue, Orange and Silver Line, including the use of one RMM. At this point, the Ops 2 Radio Controller told the Orange Line RWIC that the other crew was piggybacking, but the RWIC said that they had not been in contact with that crew.

An additional crew assigned to clean the track bed, including a Track and Structures (TRST) Assistant Superintendent, reported to the Red Line RWIC to conduct work in the area of the C&A Connector. The Red Line RWIC informed them of the separate Orange Line RWIC who would also need to brief them. When the Assistant Superintendent arrived, they directed the crew to enter the roadway via the Red Line RWIC's work zone at Farragut North and to go to work in the C&A Connector, despite not having been briefed by the Orange Line RWIC. The Assistant Superintendent stated that they spoke on the phone with the Orange Line RWIC, and that the Red Line RWIC did not need to meet with the Orange Line RWIC prior to starting work and clamping switches. The structures crew did not properly establish their own work area with shunts, lights and other equipment as required under Metrorail's roadway worker protection program. The supervisor stated in an interview that they felt the area was too short, and it was okay because the switches were clamped at either end of the C&A Connector. This track cleaning crew was permitted to enter the roadway by the Red Line RWIC at the direction of an Assistant Superintendent despite not having GOTRS rights and not being otherwise listed as a piggybacking crew on either the approved Red Line or the Orange Line requests.

The ROCC did not fully establish visual reminder alerts of work crews known as blue block and human form that are intended to remind controllers that personnel are present and that power should not be restored.

At the end of the work shift, the Orange Line RWIC told the Ops 2 Radio Controller who had just taken over the desk that it was safe to restore third rail power. The ROCC made power restoration announcements on both Ops 1 and Ops



2 radio channels, and received no objections over the radio. Another ROCC controller stated that power should not be restored to the C&A Connector. The Ops 2 Button Controller stated they were not bringing up power in the C&A Connector, however, that controller restored power approximately nine minutes later to an area that included the C&A Connector. Power in the C&A Connector is controlled by the Ops 2 desk.

The Red Line RWIC then contacted Ops 1 (Red Line) three minutes after power was restored and reported that a Warning Strobe and Alarm Device (WSAD) was alarming, indicating that power had been restored in their work area while seven people were actively working there. The TRST Assistant Superintendent reported to Ops 1 that they were working in the interlocking at the C&A Connector.

The ROCC de-energized third rail power approximately seven minutes after being told that it had been energized improperly. During this time, the Red Line RWIC spoke to the Red Line (Ops 1) controller desk and the ROCC Assistant Superintendent. The information was then conveyed to the Orange Line (Ops 2) controller desk to de-energize power.

The ROCC and supervision on scene allowed the work crew to resume work. They cleared the roadway and reported that it was safe to restore power at 7:14 a.m.

Some personnel who should have undergone post-event toxicology testing were not tested as required by Metrorail policy. This includes the TRST Assistant Superintendent, Structures Supervisor and Red Line RWIC.

Probable Cause:

The probable cause of this event was Metrorail's lack of effective training, rules and processes for work areas, work zone requests, and power restoration in areas that are in or near the C&A Connector or that otherwise include more than one ROCC desk or radio operations channel. Contributing to this event was improper direction provided by supervisory personnel, practical drift, and a lack of proactive, effective communication among personnel including within the ROCC and between different work crews. Contributing to the improper restoration of power, the Advanced Information Management (AIM) system display used by the ROCC does not clearly show power controls for the C&A Connector to demonstrate what portions of third rail will be re-energized, and Metrorail has not provided adequate training for ROCC personnel to overcome this design deficiency.

Corrective Actions:

Metrorail is moving to temporarily bar track access requests with a piggybacking crew on a different operations channel than the RWIC.

Metrorail is developing a piggyback authorization code similar to a red tag that formalizes the RWIC's interaction with piggyback crews. The code will be required for piggyback crews to setup work and for the RWIC to break down a work zone.

Metrorail is developing a schedule to review rule changes and improper RWP events with Level IV RWP qualified personnel twice each year.

Metrorail is working to install logic and validation within GOTRS to enforce a new piggybacking requirement.

Metrorail is redeveloping RWP Level IV requalification to include demonstrated knowledge of work zone setups and breakdowns of different areas such as pocket tracks, yards and with piggybacking.



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Metrorail will change power schematics and third-rail power indications in the AIM system to show power status and allow for blue block human form indications at all points in connector tracks.

Metrorail is updating SOP 2 to reflect the proper GOTRS and rulebook terminology and changes in the ROCC such as an expanded power desk.

Metrorail plans training and outreach to reinforce the proper use of GOTRS and proper/complete work zone setup.

Metrorail issued a safety alert related to RWIC responsibilities.

WMSC staff observations:

An assistant superintendent directed lower-ranking personnel to ignore RWP procedures. The assistant superintendent accompanied a crew onto the roadway that did not have required track rights.

Although the C&A Connector and other areas involving a change in operations channels have been present for most of Metrorail's existence, Metrorail did not have effective procedures or training in place for work areas such as these. Establishing effective processes for such work is important at all such locations in the system including the non-revenue connector tracks between lines, the handoff locations between the ROCC and rail yard interlocking operators, and the locations where there are shifts as part of regular daily operations between Ops 2, Ops 3 and Ops 4.

Metrorail has added what it describes as third-part safety officers (TPSOs) to the ROCC with an assignment to monitor power restoration. However, in this case and in other instances identified by the WMSC in winter 2021 of power being restored outside of safety procedures, these individuals have not intervened.

Staff recommendation: Adopt final report.



Washington Metro Area Transit Authority

**Department of Safety and Environmental
Management (SAFE)**

FINAL REPORT OF INVESTIGATION A&I E21229

Date of Event:	06/05/2021
Type of Event:	Improper RWP Protection
Incident Time:	0625 hours
Location:	Farragut North, Track 2 C&A Connector Foggy Bottom to McPherson Square
Time and How received by SAFE:	0640 hours SAFE On-call Phone
WMSC Notification Time:	0809 hours
Responding Safety Officers:	WMATA SAFE: No WMSC: No Other: N/A
Rail Vehicle:	None
Injuries:	None
Damage:	None
Emergency Responders:	None
SMS I/A Incident Number:	20210817#95074

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Abbreviations and Acronyms

AIMS	Advanced Information Management System
ARS	Audio Recording Service
ETO	Exclusive Track Occupancy
GOTRS	General Orders and Track Rights System
I/A	Incidents and Accidents
ITSS	Information Technology System Software
MOC	Maintenance Operations Center
MSRPH	Metrorail Safety Rules and Procedures Handbook
PICO	Office of Project Implementation and Construction
OHAW	Occupational Health and Wellness
OPMS	Operations Management Services
RIME	Rail Infrastructure Maintenance and Engineering
ROCC	Rail Operations Control Center
RTC	Rail Traffic Controller
RTRA	Office of Rail Transportation
RWIC	Roadway Worker In Charge
SMS	Safety Measurement System
SOP	Standard Operating Procedure
SRC	Safety Risk Coordinator
TPSO	Third-Party Safety Officer
TRPM	Office of Traction Power Maintenance
TRST	Office of Track and Structures
WSAD	Warning Strobe and Alarm Device

Executive Summary

On Monday, June 5, 2021, at approximately 0625 hours, the Rail Operations Control Center (ROCC) Ops 2 restored third rail power while a piggybacking crew was conducting interlocking Automatic Train Control (ATC) joint elimination maintenance in the C&A connector near Farragut North Station, Track 2. A crew of seven workers was actively working in the C&A at the time of power restoration. The crew was alerted to the power restoration by their Warning Strobe and Alarm Device (WSAD) activating. Based on the General Orders and Track Rights System (GOTRS) documentation, the Senior RWIC was operating under a supervisory outage for purposes of Radio Installation between Foggy Bottom and McPherson Square Stations; Chain Markers (CM) C1/C2 010+00 to C1/C2 085+00. The Junior RWIC of a piggybacking crew had approval within the GOTRS to work within the RWIC's work location C/M C2 021+00 to C2 040+00. The Junior RWIC also had separate GOTRS work orders to operate on the A-Line end of the C&A Connector.

At approximately 2223 hours, the Junior RWIC requested activation of their GOTRS rights via radio channel Ops 1 to work under a Supervisory outage between CM's A2-021+00 – A2+044+00, using Exclusive Track Occupancy (ETO) protection. The Junior RWIC advised ROCC Prime Mover (PM) 60 and 40 units would be entering their work location en route from Brentwood yard.

At approximately 2259 hours, the Senior RWIC requested activation of their GOTRS request via radio channel Ops 2 to work under a Supervisory outage between C1/C2-010+00 to C1/C2 085+00. The Senior RWIC reported that PM 54 was coming from Brentwood and requested to position PM 54 at McPherson Square. The Radio RTC responded that PM 40 was their Junior. The Senior RWIC said, "that must be from the piggyback; I have not got in contact with them yet."

At approximately 0559 hours, the Senior RWIC notified the Radio RTC that all personnel and equipment were clear of their work location. At approximately 0615 hours, RTC's made third rail power notifications on Ops 1 and Ops 2. ROCC began restoration procedures for the Senior RWIC's work location, which included the C&A connector where the Junior RWIC's crew was located. Prior to restoring power, at approximately 0616 hours, the Ops 1 Button RTC notified Ops 2 Button RTC via phone that third rail power could not be restored at the C&A connector. Ops 2 Button RTC stated they were not bringing up power in the C&A connector, however when they closed the breaker on the C-line, they failed to recognize that this would restore power to the entire C&A connector.

At approximately 0625 hours, based on the Advanced Information System (AIMS) playback, ROCC restored power between C1/C2-010+00 to C1/C2 085+00, which included the C&A connector. At approximately 0628 hours, the Junior RWIC contacted ROCC Ops 1 and inquired whether ROCC reenergized Third rail power in the C&A connector. The Junior RWIC reported that their WSAD was alarming. ROCC instructed the Junior RWIC to contact them via a landline. Shortly after, a TRST Assistant Superintendent contacted ROCC Ops 1 and notified the Radio RTC that they were working in the interlocking at the C&A connector and asked the Radio RTC if they were aware that third rail power was reenergized in their work location. According to the ARS playback, TRST Assistant Superintendent stated they spoke with the Senior RWIC at approximately 0200 hours to discuss piggyback operations. The ROCC Superintendent responded that the Senior RWIC cleared the work location at approximately 0600 hours.

ROCC de-energized third rail power approximately seven minutes after the Junior RWIC notified ROCC of energized track in their work location. At approximately 0630 hours, the ROCC Assistant Superintendent called the Ops 1 desk and asked the Button RTC whether they restored power in the C&A connector and if all personnel were clear. The Button RTC acknowledged they restored third rail power in the C&A connector; however, they did not have personnel in the C&A connector. Based on ARS phone playback, the ROCC Superintendent instructed ROCC personnel to de-energize third rail power upon phone confirmation with Junior RWIC. The Junior RWIC confirmed that third rail power was de-energized and resumed work.

At approximately 0714 hours, the Junior RWIC notified ROCC that all equipment and personnel were clear of the roadway. The Junior RWIC then gave ROCC authorization to reenergize third rail power.

The initial probable cause of the Improper RWP Protection on June 5, 2021, at Foggy Bottom, was human performance difficulty by the Junior RWIC, who had less than five months of experience in their position and received conflicting communications from supervisory personnel. The Junior RWIC did not contact the Senior RWIC on the C-Line before beginning work or attend the Senior RWIC's Roadway Job Safety Briefing (RJSB) for the piggyback rights held for the C&A connector. The Junior RWIC conducted their own RJSB prior to receiving an RJSB from the Senior RWIC and entered the roadway from Farragut North Station, which was outside of the Senior RWIC's work zone. Additional human factors included failure by the Senior RWIC to take proactive measures to contact the Junior RWIC when advised of their presence by the ROCC.

A contributing factor to the improper power restoration was an engineering control within the AIMS display. During the investigation, it was observed that when selecting the power bar in the power schematic for the C&A connector via the AIMS screen, the connecting power bar that indicates the area to be energized did not illuminate for the C&A connector. Additional contributing factors to this event included inadequate communication between the work crews during the shift and between RTC controllers during power restoration procedures. The ROCC Ops 2 RTC received communication from the Button RTC on Ops 1 to not reenergize third rail power but did not state that the Junior RWIC was still in the work location. Based on a review of training records, SAFE interview, and tenor, the Ops 2 RTC responded to the Ops 1 Button RTC that they were not reenergizing third rail power; however, they energized third rail power in the C&A connector several minutes later.

In addition, the power control configuration for the C&A Connector is managed by the Ops 2 RTC. This requires crews operating in the C&A connector to have separate GOTRS rights on the C-Line and the A-line to work in the area, which in turn requires the RWIC to manage communications across two Ops channels. The Junior RWIC operated on Ops 1 with senior rights on the A-Line, and the Senior RWIC operated on Ops 2 with separate senior rights and the Junior RWIC noted as a piggyback crew on Ops 2. Based on a review of the RWP training, there is no language addressing all the connectors throughout the system and additional safety precautions when piggybacking in locations that cross over radio channels.

Incident Site

Farragut North, C/A Connector Track 2

Senior RWIC

1. Actual Work Area: C015+00 - C080+00 / Protected Area: C010+00 - C085+00

Foggy Bottom to McPherson Square, Track 1 and 2

Junior RWIC

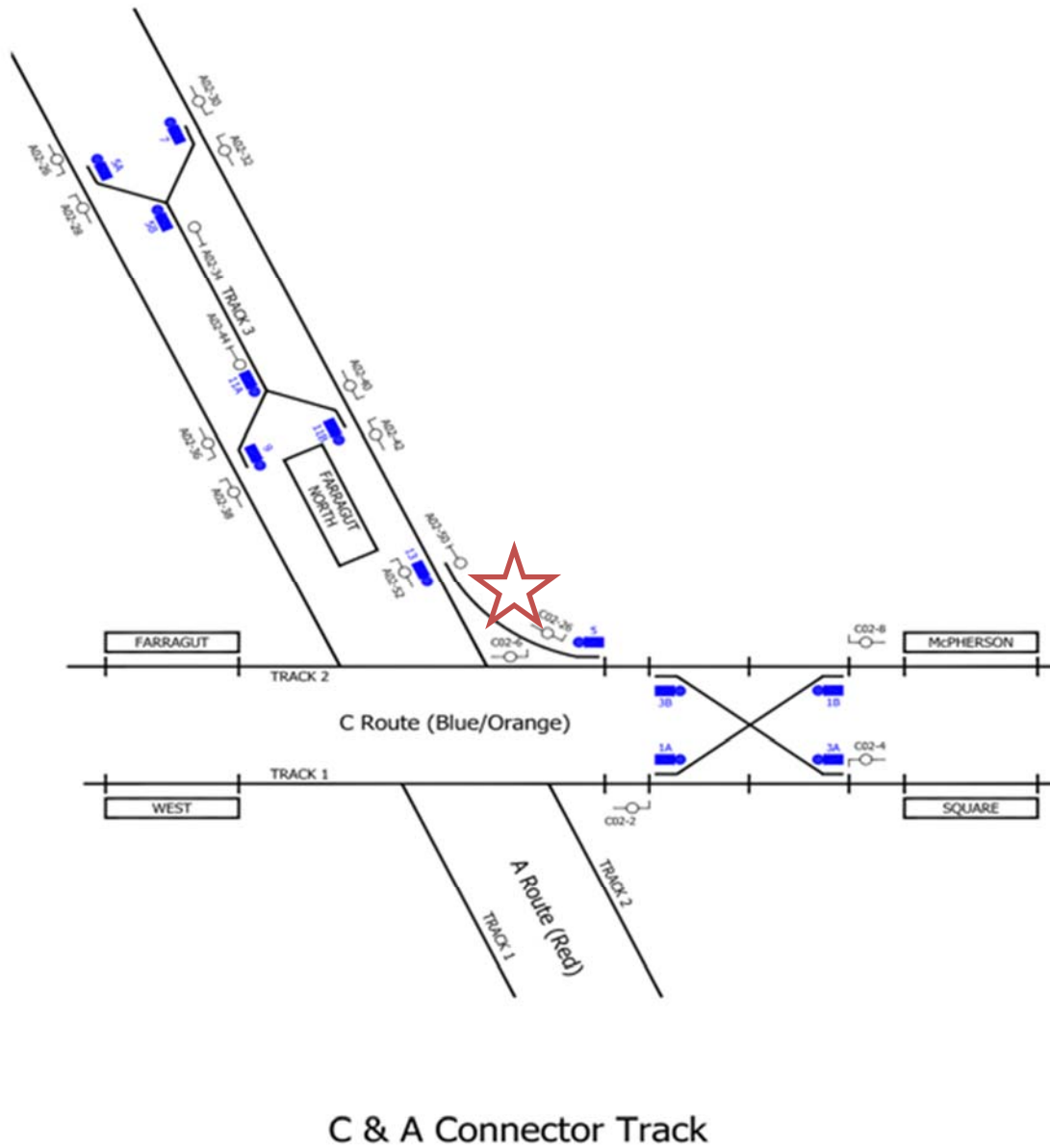
1. Actual Work Area: C026+00 - C035+00 / Protected Work Area: C021+00 – C040+00

Foggy Bottom to McPherson Square, Track 1 and 2

2. Actual Work Area: A026+00 - A039+00 / Protected Work Area: A021+00 – A044+00

Farragut North to C&A Connector, Track 2

Field Sketch/Schematics



Purpose and Scope

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

Investigation Process and Methods

Upon receiving the notification of Improper RWP Protection at Farragut North, Track 2 C&A connector on June 5, 2021, SAFE launched an investigation into this event. SAFE team members worked with relevant Washington Metropolitan Area Transit Authority (WMATA) subject matter experts and the WMSC to review the incident's facts and data.

Investigation Methods

The investigative methodologies included the following:

- Formal Interview – SAFE conducted four interviews as part of this investigation. The interviews included:
 - Senior RWIC
 - Button RTC Ops 2
 - Junior RWIC
 - TRST Assistant Superintendent
 - Informal Interviews – Collected through conversations with individuals during the investigation to provide background and supporting information.
 - Senior RWIC's Supervisor
- Documentation Review – A collection of relevant work history information and process documentation contained in Metro systems of record. These records include:
 - Training Procedures & Records
 - Certification
 - The 30-Day work history review
 - Incident Investigation Report review
 - Metrorail Safety Rules and Procedures Handbook (MSRPH)
 - National Oceanic Atmospheric Administration (NOAA)
 - Rail Operations Control (ROC) summary report review
 - Pre-job Safety Briefing
 - Third-Party Safety Officer (TPSO) Form
 - Permanent Order - 2144
- System Data Recording Review – A collection of information in Metro Data Recording Systems. This data included:
 - Audio Recording System (ARS) playback [Phone Communications and Radio]
 - Advanced Information Management System (AIMS)
 - General Order and Track Rights System (GOTRS)

Investigation

On Monday, June 5, 2021, at approximately 0625 hours, the ROCC Ops 2 RTC restored third rail power while a piggybacking crew was conducting interlocking Automatic Train Control (ATC) joint elimination maintenance in the C&A connector near Farragut North Station, Track 2. A crew of seven workers was actively working in the C&A at the time of power restoration. The crew was alerted to the power restoration by their Warning Strobe and Alarm Device (WSAD) activating. Based on the General Orders and Track Rights System (GOTRS) documentation, the Senior RWIC was operating under a supervisory outage for purposes of Radio Installation between Foggy Bottom and McPherson Square Stations; Chain Markers (CM) C1/C2 010+00 to C1/C2 085+00. The Junior RWIC of a piggybacking crew had approval within the GOTRS to work within the RWIC's work location C/M C2 021+00 to C2 040+00. The Junior RWIC also had separate GOTRS work orders to operate on the A-Line end of the C&A Connector.

At approximately 2223 hours, the Junior RWIC requested activation of their GOTRS rights via radio channel Ops 1 to work under a Supervisory outage between CM's A2-021+00 – A2+044+00, using Exclusive Track Occupancy (ETO) protection. The Junior RWIC advised ROCC Prime Mover (PM) 60 and 40 units would be entering their work location en route from Brentwood yard.

At approximately 2259 hours, the Senior RWIC requested activation of their GOTRS request via radio channel Ops 2 to work under a Supervisory outage between C1/C2-010+00 to C1/C2 085+00. The Senior RWIC reported that PM 54 was coming from Brentwood and requested to position PM 54 at McPherson Square. The Radio RTC responded that PM 40 was their Junior. The Senior RWIC said, "that must be from the piggyback; I have not got in contact with them yet."

At approximately 0559 hours, the Senior RWIC notified the Radio RTC that all personnel and equipment were clear of their work location. At approximately 0615 hours, RTC's made third rail power notifications on Ops 1 and Ops 2. ROCC began restoration procedures for the Senior RWIC's work location, which included the C&A connector where the Junior RWIC's crew was located. Prior to restoring power, at approximately 0616 hours, the Ops 1 Button RTC notified Ops 2 Button RTC via phone that third rail power could not be restored at the C&A connector. Ops 2 Button RTC stated they were not bringing up power in the C&A connector.

At approximately 0625 hours, based on the Advanced Information System (AIMS) playback, ROCC restored power between C1/C2-010+00 to C1/C2 085+00, which included the C&A connector. At approximately 0628 hours, the Junior RWIC contacted ROCC Ops 1 and inquired whether ROCC reenergized Third rail power in the C&A connector. The Junior RWIC reported that their WSAD was alarming. ROCC instructed the Junior RWIC to contact them via a landline. Shortly after, a TRST Assistant Superintendent contacted ROCC Ops 1 and notified the Radio RTC that they were working in the interlocking at the C&A connector and asked the Radio RTC if they were aware that third rail power was reenergized in their work location. According to the ARS playback, TRST Assistant Superintendent stated they spoke with the Senior RWIC at approximately 0200 hours to discuss piggyback operations. The ROCC Superintendent responded that the Senior RWIC cleared the work location at approximately 0600 hours.

ROCC de-energized third rail power approximately seven minutes after the Junior RWIC notified ROCC of energized track in their work location. At approximately 0630 hours, the ROCC Assistant Superintendent called the Ops 1 desk and asked the Button RTC whether they restored power in the C&A connector and if all personnel were clear. The Button RTC acknowledged they restored third rail power in the C&A connector; however, they did not have personnel in the C&A connector. Based on ARS phone playback, the ROCC Superintendent instructed ROCC personnel to de-energize third rail power upon phone confirmation with Junior RWIC. The Junior RWIC confirmed that third rail power was de-energized and resumed work.

At approximately 0714 hours, the Junior RWIC notified ROCC that all equipment and personnel were clear of the roadway. The Junior RWIC then gave ROCC authorization to reenergize third rail power.

Advanced Information Management System (AIMS)

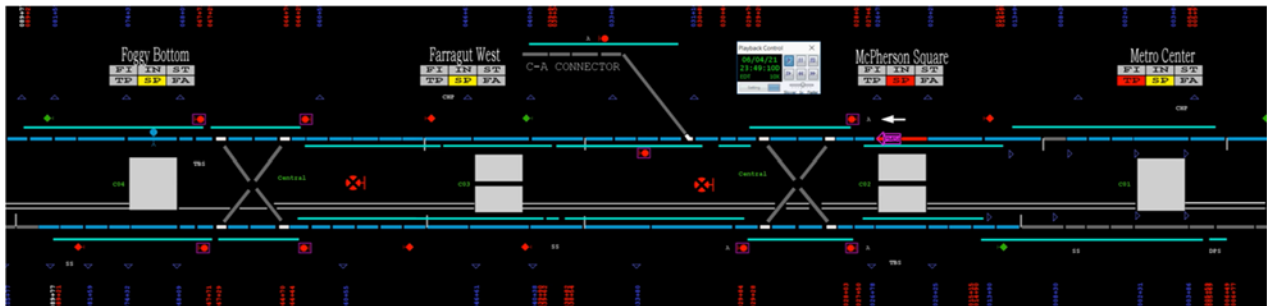


Diagram 1 – Shows third rail power not de-energized on the C-Line at 2349 hours.



Diagram 2 (Ops 1) – Shows third rail power energized on the A-Line at 0126 hours; however, the C&A connector is de-energized

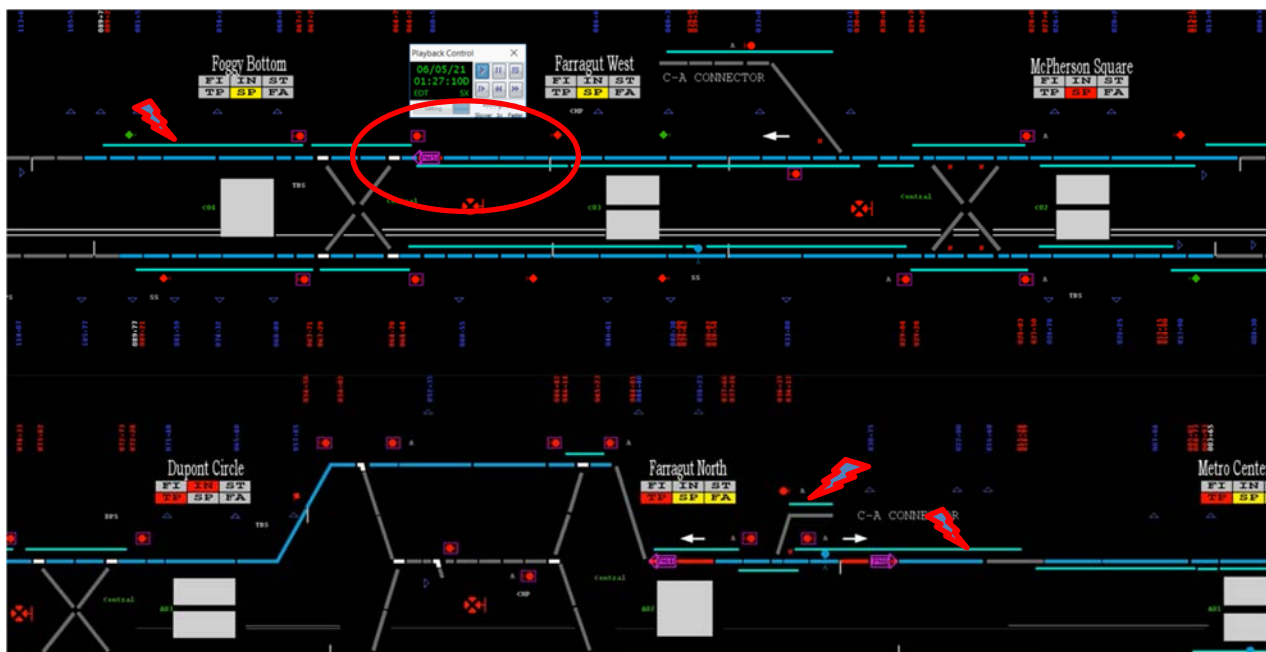


Diagram 3 – Shows Senior RWIC moving on PM 54 beginning to set up their work location on the Foggy Bottom end. ROCC de-energized third rail power in Junior RWIC's work location on the lower half between Farragut North and Metro Center at 0127 hours. Lightning bolt indicates third rail power locations are illuminated green for clarification purposes.

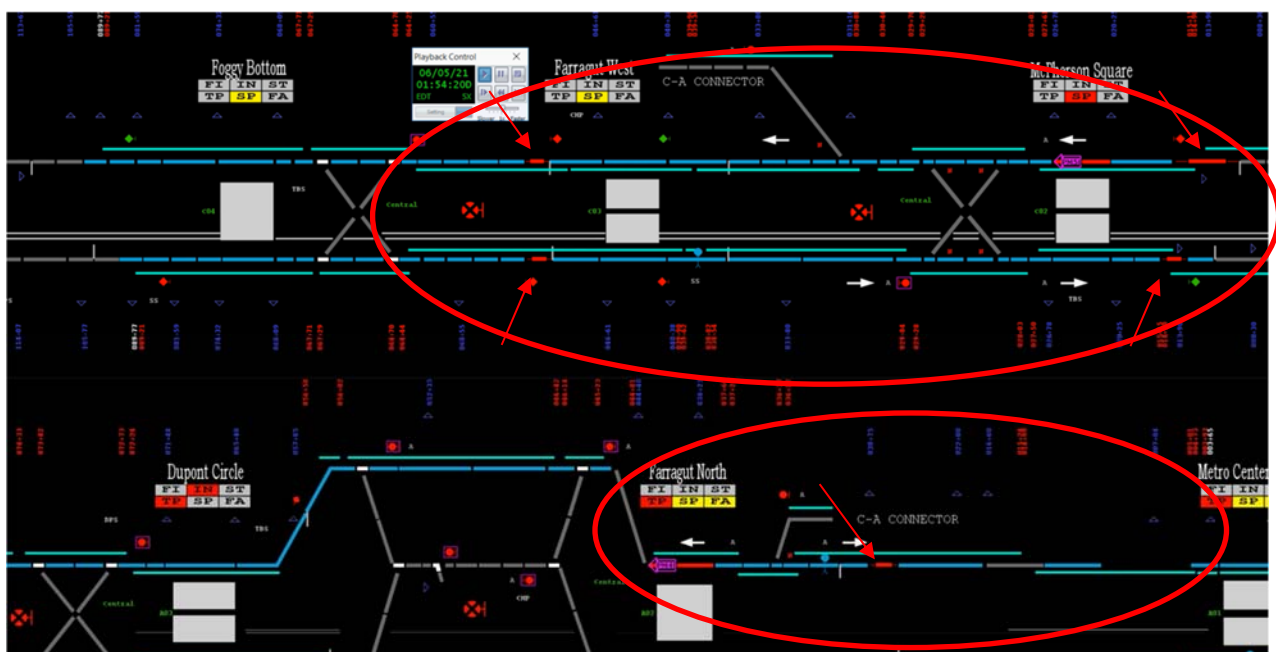


Diagram 4 – Shows both work crews setting up their work location and installing shunts (red blocks) in tandem within the same time parameters. Senior RWIC on the C-Line is notated above, and Junior RWIC on the A-Line is notated below. The Arrows indicate shunt placement.

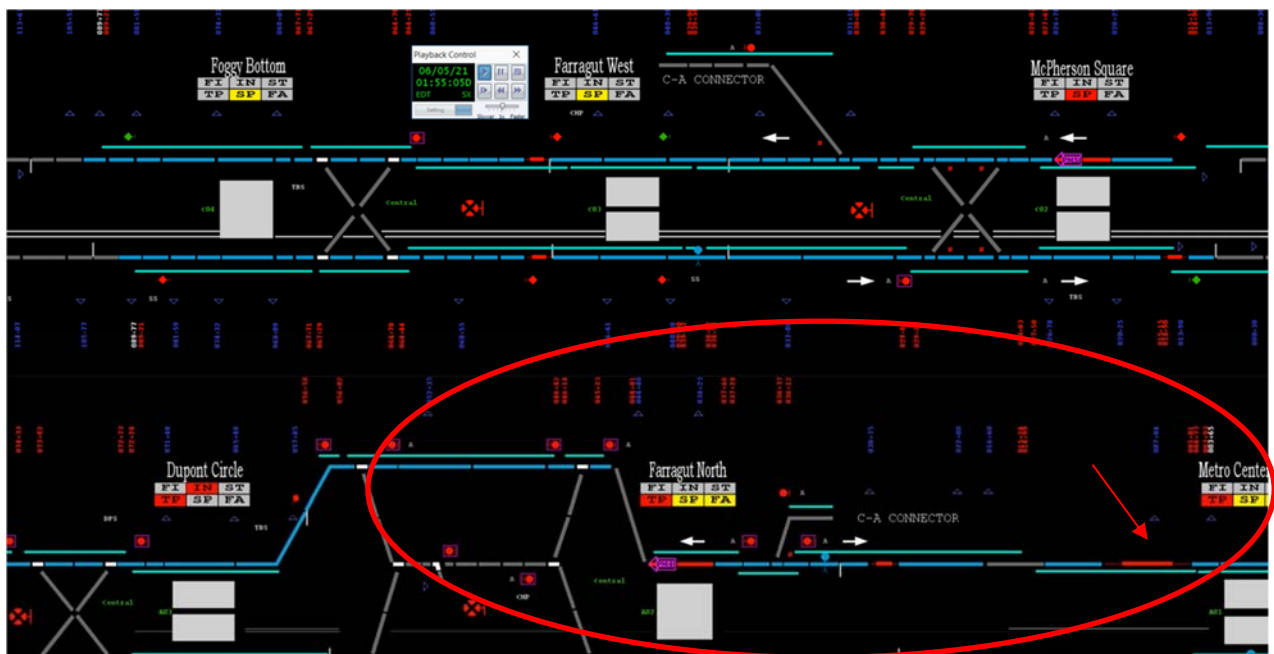


Diagram 5 – Shows Junior RWIC installed their last shunt at approximately 0155 hours.

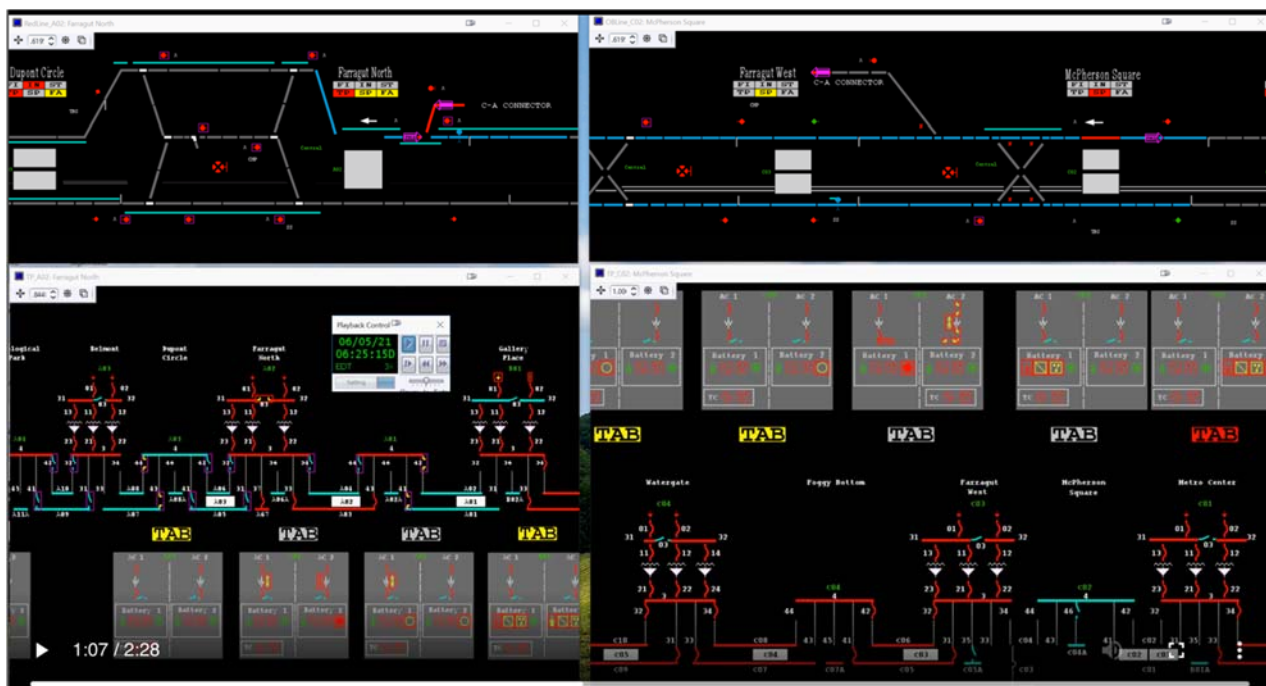


Diagram 6 – ROCC commanded breakers closed for the C&A connector at 06:25:15 hours.

Chronological Event Timeline

A review of Rail Operations Control (ROC) ARS playback, i.e., phone and radio communications, revealed the following:

Date/Time	Summary [Source]
2223 hours June 4	<u>Junior RWIC</u> : Called in their GOTRS request via Ops1 to work under a supervisory outage between CM's A2-021+00 – A2+044+00, ETO protection and notified ROCC Prime Mover (PM) 60 and 40 units would be entering their work location en route from Brentwood yard. <u>Radio RTC</u> : Confirmed the RWIC's transmission, instructed them to standby, and gave Junior RWIC a request time of 2223 hours. [Ops 1]
2259 hours	<u>Senior RWIC</u> : Called in their GOTRS request via Ops2 to work under a supervisor outage between C1/C2-010+00 to C1/C2 085+00 and that they had PM 54 coming from Brentwood and requested they be positioned at McPherson Square. <u>Radio RTC</u> : They also had PM 40 as their Junior. <u>Senior RWIC</u> : That must be from the piggyback; I have not got in contact with them yet." [Ops 2]
2349 hours	ROCC de-energized third rail power on the C-Line and C&A connector. [AIMS]
2359 hours	<u>Senior RWIC</u> – Contacted ROCC Radio RTC and confirmed third rail power was de-energized at the respective chain markers. <u>Radio RTC</u> – Confirmed the RWIC's transmission. [Ops 2]
0104 hours June 5	<u>Senior RWIC</u> : Notified the Radio RTC C02 Interlocking 1B, 3B, and five switches were clamped in the normal with Switch points tucked. The RWIC also requested to relinquish their foul time to utilize their PM to set up the rest of their work location. <u>RADIO RTC</u> : Confirmed the RWIC's transmission and instructed Senior RWIC to standby while checking the track GOTRS. <u>Senior RWIC</u> : Confirmed the Radio RTC's transmission <u>Radio RTC</u> : Authorized Senior RWIC permission to utilize their unit to set up their work Location. [Ops2]
0201 hours	<u>Junior RWIC</u> : Central, how do you copy my two shunts in my work location? <u>Radio RTC</u> : Two good shunts confirmed, install remaining safety equipment, and go to work. Clearing time 0600 hours. [Ops1]
0259 hours	<u>Junior RWIC</u> : Notified the Radio RTC they were piggybacking with Senior RWIC Radio project on Ops 2, and they were the RWIC on Ops 1. Junior RWIC further stated, they were working in the interlocking but the other side of the C & A. [Phone]
-----	Between these time frames reflected above and below, there is no significant radio or phone communications.
0559 hours	<u>Senior RWIC</u> : Notified the Radio RTC that all personnel and equipment were clear of their work location. <u>Radio RTC</u> : Confirmed and acknowledged the RWIC's radio transmission. <i>Note: A shift Turnover occurred at 05:00 hours.</i> [Ops 1]
0615 hours	ROCC conducted third rail power notifications on Ops 1 and Ops 2. [OPS 1 and 2]

Date/Time	Summary [Source]
0616 hours	<u>Ops 1 Button RTC</u> : Notified Ops 2 Button RTC via phone that third rail power could not be restored at the C/A connector. [Phone]
0625 hours	ROCC reenergized the Third rail between C1/C2-010+00 to C1/C2 085+00, which included the C&A connector. [AIMS]
0628 hours	<u>Junior RWIC</u> : Contacted ROCC Ops 1 and inquired if Third rail power was reenergized in the C&A connector. [Ops 1]
0630 hours	<u>ROCC Assistant Superintendent</u> : Called Ops1 desk and asked the Button RTC if they restored power in the C&A connector, and personnel was clear. <u>Button RTC</u> : Acknowledged they restored third rail power in the C&A connector, and they did not have personnel in the C&A connector. [Phone]
0634 hours	<u>ROCC Superintendent</u> : Where are you working in the C&A? <u>Junior RWIC</u> : Yes, the C&A. <u>ROCC Superintendent</u> : Is power still up in your area? <u>Junior RWIC</u> : Hold on, yes, power is still up; we are just letting you know what was going on down here. <u>ROCC Superintendent</u> : Speaks to ROCC personnel in the background and states, tells them to de-energize the C&A. <u>ROCC Superintendent</u> : What's your RWIC number. First of all, is everyone ok? <u>ROCC Superintendent</u> : Speaks to ROCC personnel in the background; who is on OPS 2? I need them to drop power in the C&A. <u>ROCC Superintendent</u> : What time did the power come up? <u>Junior RWIC</u> : About 5-7 minutes ago. While we were working, the WSAD went off <u>ROCC Superintendent</u> : Are there any injuries? <u>Junior RWIC</u> : No injuries, but someone could've gotten hurt. Some of the cover boards are missing. <u>ROCC Superintendent</u> : Are you on the Red Line? <u>Junior RWIC</u> : Yes [Phone]
0655 hours	<u>ROCC Assistant Superintendent</u> : Requested a Rail Supervisor to ROCC for employee transport for post-incident toxicology testing.
0714 hours	Junior RWIC notified ROCC that all equipment and personnel were clear of the roadway. Junior RWIC then gave ROCC authorization to reenergize Third rail power. [Ops 2]

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

Rail Operations Control Center Investigative Report

According to ROCC managerial staff, ROCC completed their investigation and found that the Button RTC was in accordance with all third rail power restoration procedures. The Senior RWIC cleared the work location and gave ROCC permission to restore third rail power at the designated work location.

ROCC management removed the Button RTC from service for post-incident toxicology testing. WMATA's Drug and Alcohol Program determined that the Button RTC was not in violation of the Drug and Alcohol Policy and Testing Program 7.7.3/6. A review of the Button RTC record determined that the RTC was hired on February 18, 2020, and has no disciplinary actions noted in their file. ROCC management determined the Button RTC was not at fault and did not provide planned corrective actions for this event.

Analysis:

"[Senior RWIC] had GOTRS on the C-line with a piggy backer ([Junior RWIC]) working in the C&A. [Senior RWIC] cleared his work location at 05:59 hours and reported all personnel and equipment were clear. ROCC started third rail power restoration procedures at approximately 06:15 hours and restored third rail power to [Senior RWIC's] work location at 06:26 hours. [Junior RWIC] also had his own work location on the A-line ([Senior RWIC] GOTRS)."

Findings:

When [Senior RWIC] cleared their work location on the C-line and gave ROCC permission to restore third rail power, he did not ensure his piggybacker ([Junior RWIC]) in the C&A was clear.

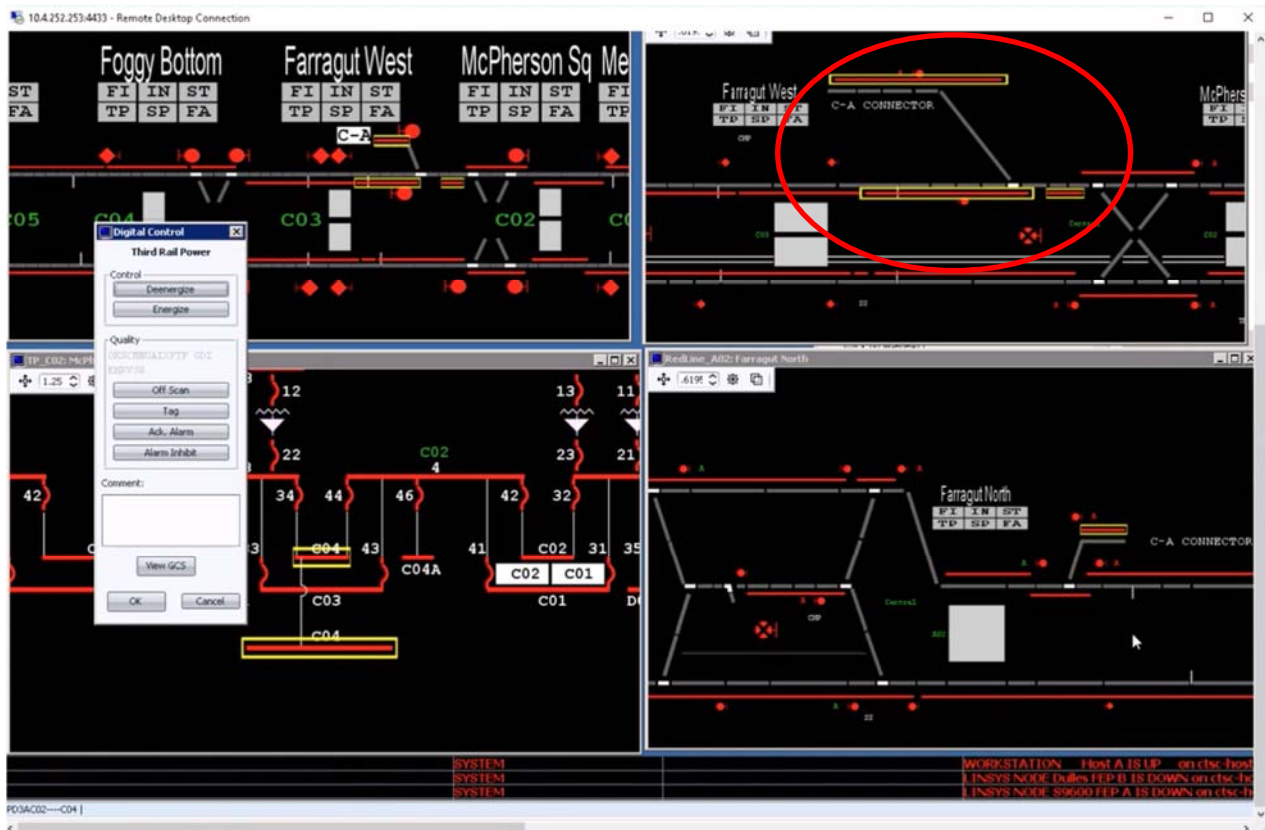
"During this investigation, I spoke with the piggybacker [TRST Assistant Superintendent], who was working with [Junior RWIC]. They reported that he did not understand why [Senior RWIC] would clear the work location if they were still working in the C&A and the RWIC was aware that they were there. I explained to them that the reason third rail power was restored was due to the fact that [Senior RWIC] cleared the work location and gave ROCC permission to restore third rail power. The GOTRS rights ([Senior RWIC] GOTRS) states piggybackers are working in the C&A."

Office of Project Implementation and Construction

According to the PICO Assistant General Superintendent, after an initial discussion with their leadership team, the Assistant General Superintendent did not send Senior RWIC down OHAW Drug and Toxicology testing. Based on their findings, all personnel on the RWIC Briefing sheet were accounted for as they cleared their work area. There are some issues regarding the execution of GOTRS rights near the C&A connector while having piggyback groups that need to be addressed.

Information Technology System and Software (ITSS)

ROCC and SAFE requested a change to the power schematic and third-rail power indications at McPherson Square Station and the C&A connector on the AIMS screen. The diagram below indicates a future state view of the C&A Power Indication that highlights all associated areas of third rail power for the location. The power bar C50 (C&A connector) is connected to power bar C04 (track #2 McPherson) by way of power configuration; both bars will highlight when clicking on one or the other to indicate that power operations control both sections of third rail.



As of the date of this report, only one power indication bar will illuminate when selecting either bar. Once the update is completed, both bars in the power schematic and third rail bars layers will illuminate as shown above with the selection of either one because they are configured together when restoring and de-energizing third rail power.

Interview Findings

Based on the investigation launched into the Foggy Bottom Improper RWP event, SAFE reviewed incident reports via Incident/Accident Safety Measurement System and conducted four interviews, including the investigation team, relevant Metro management, and the WMSC. These interviews were conducted over two weeks after the event. A summary of key findings from the interviews are as follows:

Radio RTC

The RTC reported receiving a turnover before assuming control of the console. The RTC said the C&A connector power is controlled by Ops 2. "When I arrived on the shift, we noticed Ops 1 had a work location on the other side of the C&A and discussed it with Ops 1. Junior RWIC piggybacking in my work location on Ops 2 also had their own work location on Ops 1. I guess it was not said to bring up power or not bring up power, but I did not know the RWIC in their location on Ops 1 was the piggyback on Ops 2 RWIC's work location."

The RTC never experienced this type of situation with an RWIC piggybacking on Ops 2 and having their own rights on a separate line in the C&A on Ops 1. They stated that they were confused and didn't realize it was the same person.

The RTC reported that they did not recall receiving a call from Ops 1 stating, "you know we are not bringing up power in the C&A." The RTC said the communication they had with Ops 1 was that

someone on Ops 1 was in the C&A. It was a clear communication I was bringing up power. I did not receive a phone call not to bring up power.

SAFE played the recording of the communication in question that stated the previously mentioned statement above. The RTC confirmed the person in the recording was them; however, they did not recall the conversation about the clearing up and ROCC making power announcements in relation to that call. SAFE explained that the RWIC cleared around 0559 hours, RTC made announcements at 0615 hours, Ops 1 Button RTC called you at 0616 hours, and power was restored at 0623 hours.

When I commanded the breakers open, I was in direct communication with Ops 1 Radio RTC. The RTC mentioned they received a call from the Button RTC about power not coming up in the C&A. When I restored to power on Ops 2, and I do not recall if there was a mention of do not restore third rail power.

When the Button RTC originally notified me not to bring up power, I looked at the work location on Ops1. Their work location said they were working on the joint in the C&A. That told me they were working on 13 Switch. Since they told me not to bring up power, I wanted to communicate with Ops 1 before bringing up power. When I looked at 6412's work location, it said they were working on the switch but didn't say anyone was inside the C&A. The RTC was exercising caution and wanted to make sure Ops 1 was aware Ops 2 was bringing up those breakers. The RTC stated there were no shunts in the C&A. The RTC is aware that Ops 1 is not controlling any of the connector breakers.

SAFE showed the RTC the AIMs playback to ascertain their comprehension of a shunt. The RTC noted that the unit in the C&A was a depiction based on conversation from the midnight shift RTC. The RTC stated that the depiction of C&A could be a shunt. When they received the pass-down, I asked the exiting RTC about the unit showing in the C&A. The RTC stated it's just a depiction and not actually a unit.

Senior RWIC

The RWIC called their GOTRS rights into ROCC, received permission from ROCC, verified their gaps, and clamped Switches 1B, 3B, and 5, which leads into the C&A. The RWIC clamped those switches for a straight-through move to prevent turning out into the C&A connector. The RWIC then went to work and pulled the cable. Work was completed at around 0530 hours and cleared up all equipment. The RWIC relinquished the track back to ROCC at 0600 hours.

The RWIC was notified later personnel was working in the C&A, and power was brought back upon them. The RWIC noted that the Junior RWIC did not participate in their briefing. The RWIC said they did not speak with Junior RWIC, although their name was on their GOTRS. The RWIC never experienced a piggyback in their work location on a different line. The RWIC did state they spoke with ROCC and was notified of a piggybacking crew coming into their work location; however, they never received a call from the piggybacker.

The RWIC stressed that normally the piggybacker calls the senior before leaving the office and communicates intentions, e.g., clearing time and scope of work before going to the worksite. The RWIC did not recall seeing any PPE inside the C&A while setting up or clearing their work location. The RWIC did not recall seeing any shunts in the C&A connector. The RWIC indicated Junior RWIC's piggybacking CMs were within their [Senior RWIC] actual work location on the C-line and not within the C&A connector. The RWIC stated they heard a unit in the C&A connector.

Junior RWIC

Junior RWIC identified their work location on the A-Line, Track 2 at Farragut North. The RWIC contacted ROCC to request activation of GOTRS rights and went to the work location. The RWIC arrived at the work area and waited on ROCC to contact them, The Structures Cleaning crew contacted Junior RWIC and requested to be briefed. The RWIC was not informed that they would have piggybackers under them prior to meeting the Structures crew.

The RWIC went down to their location and saw a Supervisor and contractors. The RWIC briefed them and their crew. The RWIC explained to them that they were not the RWIC of the C-Line. **Note: The piggybacking crew assumed Junior RWIC oversaw the C-Line.

The piggybacking crew asked who was the C-Line RWIC, and the RWIC stated, at that time, they did not know. The ROCC requested Junior RWIC call them via landline. The RTC asked Senior RWIC did they have an area on the C-Line and the RWIC responded no. The RWIC contacted their Assistant Superintendent and asked who the RWIC was on the C-Line. The Assistant Superintendent said it was the radio project with no additional information. The RWIC called Ops 1 RTC back and notified them it was the radio project.

ROCC then gave Junior RWIC permission to Hot Stick and set up their work location. After that, Junior RWIC received permission to start work. **Note: Junior RWIC was not briefed by the C-Line RWIC.

Before the TRST Assistant Superintendent arrived, the Junior RWIC reported that the Structures Supervisor of the cleaning crew that Junior RWIC briefed attempted to contact the Senior RWIC because they were supposed to be piggybacking under them as well. When the TRST Assistant Superintendent arrived, the Structures Supervisor said the RWIC had their work location setup and said they were good. So, they walked in the direction of the C&A.

The RWIC informed the TRST Assistant Superintendent that they were going to get briefed by the Senior RWIC. The TRST Assistant Superintendent said, "no, you're good; you can do it over the phone." The RWIC said I get that, but I want to talk to them and put my name on the briefing form. The RWIC further mentioned, I briefed them already, but their name does not need to be on the [Senior RWIC] briefing (RJSB), but mine does. The Assistant Superintendent reportedly told the Junior RWIC that he was able to perform it over the phone. The Junior RWIC believed that the Assistant Superintendent was calling the Senior RWIC but did not hear the conversation. The Junior RWIC walked away to oversee the PM units entering their area and ATC clamping switches.

After the Assistant Superintendent got off the phone, the Junior RWIC said their manager stated, that the [Senior] RWIC will come up here and brief us. During this time, the Junior RWIC received permission from ROCC to clamp the switches in reverse, and we began to move units into the C&A. The Junior RWIC began their work and stated that they forgot about the Senior RWIC coming up to their location to brief them. Around 0630 hours, the WSAD activated. The RWIC had their personnel stand by. The RWIC then contacted ROCC and asked whether they restored third rail power in the C&A.

TRST Assistant Superintendent

The TRST Assistant Superintendent arrived at the worksite at approximately 0230 hours and reportedly had a telephone conversation with Senior RWIC. The TRST Assistant Superintendent was aware Junior RWIC was not briefed by the senior RWIC (6434). The TRST Assistant

Superintendent allowed Junior RWIC to brief them. The TRST Assistant Superintendent signed the Junior RWIC's RJSB sheet and Junior RWIC work to begin.

The TRST Assistant Superintendent was present at the worksite when the WSAD sounded at approximately 0630 hours. He called ROCC to see why third-rail power had been restored. The TRST Assistant Superintendent did not recall telling Senior RWIC that briefings can be done over the phone.

Structure Supervisor of Piggybacking Crew on A-Line

The Structure Supervisor said Junior RWIC properly briefed them and their crew on the Farragut North platform. The Structure Supervisor's signature is on Junior RWIC RJSB sheet.

****Note:** As a piggybacker, the Supervisor was responsible for getting briefed by the Senior RWIC,.

The Supervisor and crew cleared the C&A connector at approximately 0430 hours. The Supervisor and crew were not working in the C&A connector when third rail power was restored at 0625 hours.

****Note:** The Structure Supervisor reportedly did not set up their own work area within the overall work area. When questioned why they didn't install the equipment, the supervisor said the junction is too short and that the switches to the A and C lines were clamped.

Immediate Mitigation to Prevent Recurrence

- ROCC removed Button RTC from service for post-incident testing.
 - TRST shall ensure all parties, except for Senior RWIC, will recertify as RWP Level-4 RWIC.
 - SAFE, TRST, and ROCC management personnel conducted a root cause analysis and corrective action working session to identify gaps that led to the event and areas for improvement regarding the incident response.
- Safety Alert – SA #21-06a "Roadway-Worker-In-Charge (RWIC) Responsibilities" issued to all WMATA personnel.

Investigative Findings

Contributory Findings

- Junior RWIC failed to attend the Senior RWIC RJSB.
- Junior RWIC failed to request permission to enter the Senior RWIC's work location, which included the C&A Connector area.
- Junior RWIC failed to inform the Senior RWIC that their work area was set up.
- Senior RWIC cleared their work location on the C-line and gave ROCC permission to restore third rail power.
- RTC failed to add blue block and human form indication to the C&A Connector when the Junior RWIC established
- Ops 1 RTC contacted Ops 2 RTC after the power restoration request was made and advised to not restore power in the C&A Connector. The control of third rail power in the C&A connector is controlled by Ops 2.
- The AIMS display for power operations involving the C&A Connector does not illuminate all sections of the C&A third rail.
- The Structure Supervisor was briefed by the Junior RWIC but required to be part of the Senior RWIC's RJSB.
- Structures Piggyback Crew was not listed within any of the reviewed GOTRS requests.

The Assistant Superintendent failed to reconcile inconsistencies with the briefing and communication process between the Senior and Junior RWICs.

Non-Contributory Findings

- Junior RWIC, TRST Assistant Superintendent and Structures Supervisor did not undergo post-incident toxicology testing.
- The Structure Supervisor of the Piggybacking crew in the C&A working under Senior RWIC did not set up an independent work zone before beginning work (i.e., shunts and E-Flares).

Weather

At the time of the incident, National Oceanic and Atmospheric Administration (NOAA) recorded the temperature as 68°F and clear. The incident occurred within a tunnel section of the mainline. Therefore, SAFE has concluded that weather was not a contributing factor in this incident (Weather source: NOAA – Location: Washington, Dc.)

Human Factors

Evidence of Fatigue – Radio RTC

Conditions were evaluated at the time of the incident to distinguish whether evidence of fatigue was present—no sign of fatigue as indicated by the available data. Video of the incident was reviewed for behaviors suggesting fatigue. No indications of fatigue were evident from the video. The employee reported feeling fully alert at the time of the incident. The employee reported experiencing no symptoms of fatigue in the time leading up to the incident.

Evidence of Fatigue - Junior RWIC

Conditions were evaluated at the time of the incident to distinguish whether evidence of fatigue was present. No video of the involved person was available to ascertain whether evidence of fatigue was present. The employee reported feeling fully alert at the time of the incident. The employee reported experiencing no symptoms of fatigue in the time leading up to the incident.

Evidence of Fatigue - Senior RWIC

Conditions were evaluated at the time of the incident to distinguish whether evidence of fatigue was present. No video of the involved person was available to ascertain whether evidence of fatigue was present. The employee reported feeling fully alert at the time of the incident. The employee reported experiencing no symptoms of fatigue in the time leading up to the incident.

Evidence of Fatigue - Assistant Superintendent

Conditions were evaluated at the time of the incident to distinguish whether evidence of fatigue was present. No video of the involved person was available to ascertain whether evidence of fatigue was present. The employee reported feeling fully alert at the time of the incident. The employee reported experiencing no symptoms of fatigue in the time leading up to the incident.

Fatigue Risk – Radio RTC

Data was evaluated for fatigue risk factors. Risk factors for fatigue were not present. The incident occurred at a time of low circadian alertness. The employee reported keeping a regular sleep schedule in the days leading up to the incident. The employee worked dayshift in the days leading

up to the incident. The employee was awake for 3.41 hours at the time of the incident. The employee reported 10 hours of sleep in the 24 hours preceding the incident. The off-duty period was 15.43 hours which provides an opportunity for 7-9 hours of sleep. This was 3.5 hours more than the employee's usual workday sleep durations. The employee reported no issues with sleep.

Since fatigue evidence and risk factors were not present, the biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied.

Fatigue Risk - Junior RWIC

Data was evaluated for fatigue risk factors. Risk factors for fatigue were not present. The incident occurred at a time of low circadian alertness. The employee reported keeping a regular sleep schedule in the days leading up to the incident. The employee worked nights in the days leading up to the incident. The employee was awake for 14.9 hours at the time of the incident. The employee reported 8 hours of sleep in the 24 hours preceding the incident. The off-duty period was 15.91 hours which provides an opportunity for 7-9 hours of sleep. This was a comparable amount of the employee's usual workday sleep durations. The employee reported no issues with sleep.

Since fatigue evidence and risk factors were not present, the biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied.

Fatigue Risk - Senior RWIC

Data was evaluated for fatigue risk factors. Risk factors for fatigue were not present. The incident occurred at a time of low circadian alertness. The employee reported keeping a regular sleep schedule in the days leading up to the incident. The employee worked nights in the days leading up to the incident. The employee was awake for 11.91 hours at the time of the incident. The employee reported 8 hours of sleep in the 24 hours preceding the incident. The off-duty period was 11.91 hours which provides an opportunity for 7-9 hours of sleep. This was a comparable amount of the employee's usual workday sleep durations. The employee reported no issues with sleep.

Since fatigue evidence and risk factors were not present, the biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied.

Fatigue Risk - Assistant Superintendent

Data was evaluated for fatigue risk factors. Risk factors for fatigue were not present. The incident occurred at a time of low circadian alertness. The employee reported keeping a regular sleep schedule in the days leading up to the incident. The employee worked nights in the days leading up to the incident. The employee was unable to provide accurate accounts of their time awake for this incident. The employee reported 8 hours of sleep in the 24 hours preceding the incident. The off-duty period was 11.91 hours which provides an opportunity for 7-9 hours of sleep. This was a comparable amount of the employee's usual workday sleep durations. The employee reported no issues with sleep.

Since fatigue evidence and risk factors were not present, the biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied.

Post-Incident Toxicology Testing

WMATA's Drug and Alcohol Program determined that the Button RTC was not in violation of the Drug and Alcohol Policy and Testing Program 7.7.3/6.

At the time of this incident, PICO managerial staff did not remove the RWIC from service for post-incident toxicology testing. Based on SAFE's investigative findings and Metro's drug and alcohol policy, the 36-hour time parameters window to test had passed by the time administrative staff became aware. Senior RWIC was off for the next two consecutive days, and upon return, PICO determined Senior RWIC did not contribute to this event. Therefore, the RWIC did not submit to post-incident testing within the 36-hour time parameters Under WMATA's current Drug and Alcohol Policy and Testing Program Policy Instruction 7.7.3/6.

The Junior RWIC and TRST Assistant Superintendent were not removed from service for post-incident testing given the known facts at the time of the incident. Under WMATA's current Drug and Alcohol Policy and Testing Program Policy Instruction 7.7.3/6, WMATA may perform Post-Incident Toxicology Testing on employees and contractors whose performance cannot be "completely discounted,"

Probable Cause

The initial probable cause of the Improper RWP Protection on June 5, 2021, at Foggy Bottom, was human performance difficulty by the Junior RWIC, who had less than five months of experience in their position and received conflicting communications from supervisory personnel. The Junior RWIC did not contact the Senior RWIC on the C-Line before beginning work or attend the Senior RWIC's Roadway Job Safety Briefing (RJSB) for the piggyback rights held for the C&A connector. The Junior RWIC conducted their own RJSB prior to receiving an RJSB from the Senior RWIC and entered the roadway from Farragut North Station, which was outside of the Senior RWIC's work zone. Additional human factors included failure by the Senior RWIC to take proactive measures to contact the Junior RWIC when advised of their presence by the ROCC.

A contributing factor to the improper power restoration was an engineering control within the AIMS display. During the investigation, it was observed that when selecting the power bar in the power schematic for the C&A connector via the AIMS screen, the connecting power bar that indicates the area to be energized did not illuminate for the C&A connector. Additional contributing factors to this event included inadequate communication between the work crews during the shift and between RTC controllers during power restoration procedures. The ROCC Ops 2 RTC received communication from the Button RTC on Ops 1 to not reenergize third rail power but did not state that the Junior RWIC was still in the work location. Based on a review of training records, SAFE interview, and tenor, the Ops 2 RTC responded to the Ops 1 Button RTC that they were not reenergizing third rail power; however, they energized third rail power in the C&A connector several minutes later.

In addition, the power control configuration for the C&A Connector is managed by the Ops 2 RTC. This requires crews operating in the C&A connector to have separate GOTRS rights on the C-Line and the A-line to work in the area, which in turn requires the RWIC to manage communications across two Ops channels. The Junior RWIC operated on Ops 1 with senior rights on the A-Line, and the Senior RWIC operated on Ops 2 with separate senior rights and the Junior RWIC noted as a piggyback crew on Ops 2. Based on a review of the RWP training, there is no language addressing all the connectors throughout the system and additional safety precautions when piggybacking in locations that cross over radio channels.

Recommendations/Corrective Actions

The following are the recommendations and corrective actions identified as a result of this investigation. These recommendations and corrective actions are tracked using WMATA's Safety

Measurement System Incidents/Accidents (SMS I/A) Module and are verified by SAFE upon completion. The responsible department is identified in the corrective action code, and the respective departmental Safety Risk Coordinator (SRC) will manage the mitigation. Refer to the SMS I/A module for additional information.

Corrective Action Code	Description
95074_SAFECAPS_COO_001	(RC-1, CF-1) Training and outreach to RAIL, ROCC, and FSVT personnel reinforce the proper use of GOTRS and proper/complete Work Zone set up.
95074_SAFECAPS_COO_002	(CF-1) Issue a Temporary Order barring the approval of Track Access requests in which a junior piggyback crew is on a different Ops Channel than the Senior.
95074_SAFECAPS_COO_SAFE003	(RC-1) Develop a Piggyback Authorization Code, similar to the red tag number, that formalizes the RWIC's interaction with piggyback crews. Piggyback crews cannot begin setup without this Authorization Code, and RWICs cannot begin breakdown until the Code is returned.
95074_SAFECAPS_COO_SAFE004	(RC-1) Develop toolbox talk/safety bulletin schedule for all RWIC-qualified personnel that is completed biannually (e.g., January and June) and review rule changes and recent RWP violation events.
95074_SAFECAPS_ROCIT_005	(CF-1) Install logic/validation within GOTRS to enforce a new piggybacking requirement.
95074_SAFECAPS_OPMS_006	(RC-1) Redevelop RWP Level 4 requalification to include demonstrated knowledge of Work Zone setups and breakdowns of different Area configurations, e.g., in pocket tracks, in yards, with piggybacks.
95074_SAFECAPS_COO/IT_007	(CF-1) Add logic/software change to AIMS display to show power status at all points in connector tracks and blue block human form indications.
95074_SAFECAPS_SAFE_008	(CF-1) Complete implementation of PO T-21-44 is to update SOP 2 to reflect GOTRS terminology, the ROCC Management Reorganization, and terminology as defined by the MSRP Glossary. It also updates the glossary terms to reflect the introduction of the Power Desk.

Appendices

Appendix A – Interviews

Radio RTC

WMATA employee with six months of experience as an RTC. The RTC has 1.5 years of seniority with authority; their previous role as a Student RTC. The RTC's last certification was on February 18, 2021.

The below narrative summarizes the interview with SAFE and represents the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

The RTC assigned as the Radio RTC stated I had an RWIC on work location at McPherson Square on Track 2 from Metro Center to Foggy Bottom. The RWIC cleared up. I just came onto the shift. When the RWIC cleared up, I didn't know they had a piggyback. After the RWIC cleared up, ROCC made our announcements followed regular procedure, and brought up power. Supposedly, the RWIC didn't clear up in the C&A and bringing up power caused the WSAD to activate. Personnel in the C&A notified us that power was brought up in that location.

My Superintendent was not aware we had a piggyback crew. Then, I was removed from service for post-incident. When I returned, it was brought to my attention that someone else was working under the RWIC's work location when the RWIC on the C-Line called clear.

The RTC reported receiving a turnover before assuming control of the console. The RTC noted that they reviewed the GOTRS. The RTC said the C&A connector power is controlled by Ops 2. The RTC received a call from Ops 1.

When I arrived on the shift, we noticed Ops 1 had a work location on the other side of the C&A and discussed it with Ops 1. 6412 RWIC piggybacking in my work location on Ops 2 also had their work location on Ops 1. I guess it was not said to bring up power or not bring up power, but I did not know the RWIC in their location on Ops 1 was the piggyback on Ops 2 RWIC's work location.

The RTC never experienced this situation with an RWIC piggybacking on Ops 2 and having their rights on a separate line in the C&A on Ops 1. The RTC stated, usually, when everyone is working on the same line/ops with the same controller, it works. In this instance, the RTC didn't know the piggyback crew was communicating with the other Ops. "If I knew they were the same person, I would not have brought power up in that location. I got confused due to it being the same person."

The RTC reportedly did not recall receiving a call from Ops 1 saying, "you know we are not bringing up power in the C&A." The RTC said, "the communication they had with Ops 1 was that someone on Ops 1 was in the C&A. It was a clear communication I was bringing up power. I did not receive a phone call not to bring up power."

SAFE played the recording of the communication in question that stated the previously mentioned statement above. The RTC confirmed the person in the recording was them; however, they did not recall the conversation or to the clearing up and us making power announcements in relation to that call. SAFE explained the RWIC cleared around 0559 hours, RTC made announcements made at 0615 hours, Ops 1 Button RTC called you at 0616 hours, and power was restored at 0623 hours.

I will say, I do recall the conversation for the record. When I commanded the breakers open, I was in direct communication with Ops 1 Radio RTC. The RTC mentioned they received a call from the Button RTC about power not coming up in the C&A. When I restored to power on Ops 2, and I do not recall if there was a mention of do not restore third rail power. The TPSO was there to ensure the power restoration was communicated between the RTC's.

When the Button RTC initially notified me not to bring up power, I looked at the work location on Ops1. In their work location, it said they were working on the joint in the C&A. That told me they were working on 13 Switch. Since they told me not to bring up power, I wanted to communicate with Ops 1 before bringing up power. When I looked at 6412's work location, it said they were working on the switch but didn't say anyone was inside the C&A. The RTC was exercising caution and wanted to make sure Ops 1 was aware Ops 2 was bringing up those breakers. The RTC stated there were no shunts in the C&A. The RTC is aware that Ops 1 is not in control of any of the connector breakers.

SAFE showed the RTC the AIMS playback to ascertain their comprehension of a shunt. The RTC noted that the unit in the C&A was a depiction based on conversation from the midnight shift RTC. The RTC stated that the depiction of C&A could be a shunt. When they received the pass-down, I asked the exiting RTC about the unit showing in the C&A. The RTC stated it's just a depiction and not actually a unit.

The WMSC recommended the RTC check their own work upon arrival and subsequent pass-down. Check the Maps, AIMS, and GOTRS to ensure.

Junior RWIC

WMATA employee with five months of experience as an RWIC. The RWIC has 1.5 years of seniority with authority. The RWIC's last Level-4 RWP certification was on November 1, 2018.

The below narrative summarizes the interview with SAFE and represents the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

According to the RWIC, they received their GOTRS and noticed it was for the C-Line. The RWIC informed the Assistant Superintendent that the CM's on the GOTRS did not correlate with the rail replacement. The Assistant Superintendent told the RWIC it was their piggybacking GOTRS and their senior GOTRS were underneath that GOTRS form in their hand. After further review, the RWIC identified their work location on the A-Line Track 2 at Farragut North.

The RWIC contacted ROCC to request my GOTRS and went to the work location. The RWIC Assistant Superintendent said that once the RWIC set up the work location, the RWIC should contact them, and they will come out to the work location. When the RWIC arrived at the work area, they waited on ROCC to contact them. WMATA personnel contacted Junior RWIC and requested to be briefed. The RWIC was not informed that they would have piggybackers under them.

The RWIC went down to their location and saw a Supervisor and contractors. The RWIC briefed them and their crew. The RWIC explained to them that they were not the RWIC of the C-Line. **Note: The piggybacking crew assumed Junior RWIC was in charge of the C-Line.

The piggybacking crew asked who, and the RWIC stated, at that time, they did not know who. ROCC requested Junior RWIC give them a landline. The RTC asked Senior RWIC did they have an area on the C-Line and the RWIC responded no. Junior RWIC said they would contact their office and find out who. The RWIC contacted their Assistant Superintendent and asked who the RWIC was on the C-Line. The Assistant Superintendent said it was the radio project with no additional information. The RWIC called Ops 1 back and notified them it was the radio project. Minutes later, ROCC contacted Senior RWIC via radio and gave them their work location.

ROCC then gave Junior RWIC permission to Hot Stick and set up their work location. Thereafter, Junior RWIC received permission to start work. **Note: At this time, the RWIC did not get briefed by the C-Line RWIC. The RWIC contacted their Assistant Superintendent and reported that the work location was set up, and everything was good. The Assistant Superintendent arrived around 0230 hours.

Before the Assistant Superintendent arrived, the RWIC notated, the Supervisor of the piggybacking crew that they briefed attempted to make contact with the C-Line RWIC because they were supposed to be backing under them as well. When my Assistant Superintendent arrived, the other Supervisor said the RWIC had their work location setup and said they were good. So, they walked in the direction of the C&A.

The RWIC informed the TRST Assistant Superintendent that they were going to get briefed by the RWIC on the C-Line. The Assistant Superintendent said, “no, you’re good; you can do it over the phone.” The RWIC said I get that, but I want to talk to them and put my name on the briefing form. The RWIC further mentioned, I briefed them already, but their name does not need to be on the briefing, by mine does. The Assistant Superintendent, no, we’re good, we can do it over the phone. As the Assistant Superintendent called the RWIC, the RWIC stated they began overseeing units entering their area and ATC clamping switches.

During this time, we receive permission from ROCC to clamp the switches in reverse, and we began to move units into the C&A. **Note: At this time, you have unauthorized movement within the other RWIC’s work location. The C-Line RWIC [6434] coming up to the 6434 RWIC’s work location slipped their mind. Around 0630 hours, the WSAD goes off. The RWIC had their personnel standby. The RWIC grabbed their hot stick and verified that third rail power was energized. After the Assistant Superintendent got off the phone, the RWIC said their manager stated, we’re good; the RWIC will come up here and brief us. The RWIC then contacted ROCC and asked did they restored third rail power in the C&A. The Assistant Superintendent then communicated with ROCC.

Senior RWIC

WMATA employee with eight years of experience as an Equipment Operator. The Equipment Operator has nine years of seniority with authority. The Equipment Operator’s last Level-4 RWP certification was on December 1, 2020.

The below narrative summarizes the interview with SAFE and represents the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

According to Senior RWIC, they were tasked with Radio install between Metro Center to Foggy Bottom on Track 1 and 2 on the C-Line. The RWIC Called their GOTRS rights into ROCC, received permission from ROCC, verified their gaps, and clamped Switches 1B, 3B, and 5, which leads into the C&A. The RWIC clamped that for a straight-through move to prevent turning out into the C&A connector. The RWIC then went to work and pulled the cable. Work was completed at around 0530 hours and cleared up all equipment. The RWIC relinquished the track back to ROCC at 0600 hours.

The RWIC was notified later personnel was working in the C&A, and power was brought back upon them. The RWIC noted that 6412 did not participate in their briefing. The RWIC said they did speak with Junior RWIC, although their name was on their GOTRS. The RWIC never experienced a piggyback in their work location on a different line. The RWIC did state they spoke with ROCC and was notified of a piggybacking crew coming into their work location; however, they never received a call for the piggybacker.

The RWIC stressed that normally the piggybacker calls the senior before leaving the office and communicates intentions, e.g., clearing time and scope of work before going to the worksite. The RWIC did not recall seeing any PPE inside the C&A while setting up or clearing their work location. The RWIC did not recall seeing any shunts in the C&A connector. The RWIC indicated Junior RWIC piggybacking CM’s were within their actual work location on the C-line and not within the C&A connector. The RWIC stated they heard a unit in the C&A connector.

TRST Assistant Superintendent

WMATA employee with three years of experience as an Assistant Superintendent. The Assistant Superintendent has ten years of seniority with authority in various roles such as Equipment Operator D, B/C, and TRST Supervisor. The Assistant Superintendent's last Level-4 RWP certification was in April of 2021.

The below narrative summarizes the interview with SAFE and represents the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.

According to the TRST Assistant Superintendent, they gave Junior RWIC their GOTRS for the junior and senior rights. The Assistant Superintendent instructed the RWIC to get in contact with ROCC to find out who the RWIC was of that location. Once the RWIC established communication with the RWIC, set up their work location and call when they were about to start work. Once I gave the RWIC the GOTRS information, the RWIC was responsible for contacting ROCC since work prep was not completed by the senior and requested permission to go direct with the senior and request the phone to discuss meeting up location.

When the Assistant Superintendent arrived on location at 0230 hours, Junior RWIC conducted a safety briefing on the platform. The Assistant Superintendent called ATC and had them come down for the safety briefing. The Junior RWIC stated they were unable to get in contact with ATC. From the Assistant Superintendent's perspective, the RWIC set up the work location. The Assistant Superintendent was assuming everything was set up on the C-Line with the senior based on the lights and shunts set up in Junior RWIC work location.

While we were working, the WSAD activated. The Assistant Superintendent instructed personnel to Hot stick and confirm that third rail power was energized. The Assistant Superintendent notified ROCC of their findings, and ROCC de-energized power for TRST to continue their work. After that, third rail power was restored. The Assistant Superintendent stated that when they were briefed, and they assumed C-Line senior RWIC already briefed the RWIC. The Assistant Superintendent recalled the conversation with the RWIC stating they needed to go down to the RWIC's location to sign the briefing sheet. The Assistant Superintendent recalled explaining to the RWIC that everyone did not need to be briefed by the C-Line RWIC only Junior RWIC; after that, they can come back and brief us. The Assistant Superintendent called Senior RWIC as a courtesy and never told Junior RWIC Senior RWIC was going to come up and brief us.

The Assistant Superintendent never went into the C&A connector and was unsure if protection was set up in that location; their work location ended right before the C&A connector turn out. The Assistant Superintendent stated they never saw the piggybacking crew working under the A-Line Junior RWIC mentioned had communicated with the Assistant Superintendent upon arrival. The Assistant Superintendent did not see any units stored in the C&A connector. The Assistant Superintendent observed Junior RWIC walk towards the connector and thought they were going to get briefed. The Assistant Superintendent never told Junior RWIC that they were good and we can go to work.

Further stating, "I can't tell them to get to work; they are the RWIC." The Assistant Superintendent did note a structures Supervisor crew was on location and walked into the C&A. **Note: This is the crew that spoke with the Assistant Superintendent on their arrival and was briefed by Junior RWIC, who was not the Senior. The Assistant Superintendent stated that when they communicated with ROCC after the WSAD activated, Senior RWIC and ROCC knew we were in the work location because they notified Senior RWIC PM40 was piggybacking in their work location.

Structures Supervisor

Based on TRST's written investigative statement, the Structures Supervisor – Gang leader for a Structures crew and contractors issued expedited GOTRS rights to the A and C lines at the C&A Junction and said to be piggybacking Junior RWIC crew. The Structures Supervisor and their crew had cleared the area well before the WSAD sounded. The Structures Supervisor was using Ops 2 on the radio.

The Structures Supervisor said Junior RWIC properly briefed them and their crew on the Farragut North platform. The Structures Supervisor cleared the roadway at approximately 0430 hours and was not present when third rail power was restored at 0625 hours. When questioned why they did not put shunts down, the Structures Supervisor said the junction is too short and that the switches to the A and C lines were clamped.

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113800800	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:		Allow Piggybacks:	True
Requestor Organization:	DECO/IRPG	In Piggyback:	Yes, Senior
Switch Order:		Power Outage:	Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	Radio- C02 to C04 Install		

Location, Work Type and Description

Location:	Mainline
Non-Wayside Location Type:	
Request Type:	Regular
Charge Job Number:	
Contract Number:	
Maximo Work Order:	
Request Group:	No
Location Description:	
Request Description:	Install Cable Supports and Cables
Work Type:	Radio
Meeting Location:	
PB Meeting Location:	
Tools and Equipment:	PPE, Hand Tools
Equipment on Track:	PM

Track 1		Track 2	
Actual Work Area:	C015+00 C080+00	Actual Work Area:	C015+00 C080+00
Protected Work Area:	C010+00 C085+00	Protected Work Area:	C010+00 C085+00

Hot Stick Info. Third Rail Gaps:

From	To	Track ID
C029+84	C038+54	1
C038+82	C039+62	1
C039+90	C064+44	1
C064+70	C067+29	1
C067+71	C089+21	1
D005+41	C029+28	1
C028+03	C029+28	2

As of 06/05/2021 13:31
1 of 5

Attachment 1 - DECO/IRPG GOTRS Senior RWIC page 1 of 5

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113800800	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:	[REDACTED]	Allow Piggybacks:	True
Requestor Organization:	DECO/IRPG	In Piggyback:	Yes, Senior
Switch Order:		Power Outage:	Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	Radio- C02 to C04 Install		

C029+70	[REDACTED]	C039+34	2
C039+90	[REDACTED]	C064+25	2
C064+70		C089+21	2
D005+41		C027+61	2

Date & Time

Start: 06/05/2021 01:00 **End:** 06/05/2021 06:30

Contacts

Entered by

[REDACTED]

Work: [REDACTED]

Cell: [REDACTED] **Home:** [REDACTED]
(Dayshift)

Requestor

[REDACTED]
[REDACTED]@wmata.com

Work: [REDACTED]

Cell: [REDACTED] **Home:** [REDACTED]
(Nightshift)

WMATA Manager

[REDACTED]
[REDACTED]@wmata.com

Work: [REDACTED]

Cell: [REDACTED] **Home:** [REDACTED]

Emergency Contact

[REDACTED]
[REDACTED]@wmata.com

Work: [REDACTED]

Cell: [REDACTED] **Home:** [REDACTED]

Support

SUPPORT GROUP	Crew Size
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TRST/STRUC	5
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Request Change History

Date	Event
05/18/2021 07:52	Request was cloned from Request 202113300100.
05/24/2021 15:21	Request status was changed to Approved
06/05/2021 01:05	Work Prep was completed.

As of 06/05/2021 13:31
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Attachment 1 – DECO/IRPG GOTRS Senior RWIC Page 2 of 5.

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113800800	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:	[REDACTED]	Allow Piggybacks:	True
Requestor Organization:	DECO/IRPG	In Piggyback:	Yes, Senior
Switch Order:		Power Outage:	Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	Radio- C02 to C04 Install		

Request Change History

Date	Event
06/05/2021 01:22	Work Prep was edited. Field(s) changed: Unit #. Unit #: 6221 to 6122.
06/05/2021 01:37	Work Prep was edited. Field(s) changed: Unit #, Requestor Comment. Unit #: 6122 to 6434. Requestor Comment: RWIC: [REDACTED] to RWIC: [REDACTED]
06/05/2021 03:00	Request status was changed to Opened
06/05/2021 12:13	Request status was changed to Closed
06/05/2021 12:13	OCC Controller Comment was updated.

Request Group

Request Number	Description
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Piggyback

Request Number	Order	Inherits Rights	Request Status	Piggyback Status	Track	Protected Area Start	Protected Area End
202113800800 Radio- C02 to C04 Install	SR	N/A	Closed	Agreed	1	C010+00	C085+00
202113800800 Radio- C02 to C04 Install	SR	N/A	Closed	Agreed	2	C010+00	C085+00
202113905700 CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)	JR-0	Yes	Closed	Agreed	2	C021+00	C040+00

Piggyback History

Date	User	Event
05/19/2021 23:18	[REDACTED]	Piggyback with Junior Request 202113905700 was formed. Cause: Piggyback invitation was received.


As of 06/05/2021 13:31
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Attachment 1 – DECO/IRPG GOTRS Senior RWIC Page 3 of 5.

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113800800	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:		Allow Piggybacks:	True
Requestor Organization:	DECO/IRPG	In Piggyback:	Yes, Senior
Switch Order:		Power Outage:	Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	Radio- C02 to C04 Install		

Red Tag information

Red Tag #: Request is not Red Tag.

Close-Out Summary


Final Status: Closed

Request To Begin Work: 06/04/2021 23:00

Request to De-Energize: 06/05/2021 00:37

**De-Energization Completed;
RWIC notified:** 06/05/2021 00:37

Hot Stick: 06/05/2021 01:29

From	To	Track ID	Waive(?)	Unit #	Chain Marker	Entered By	Date
D005+41	C027+61	2		6434	C020+00		06/05/2021 01:01
D005+41	C029+28	1		6434	C020+00		06/05/2021 01:01
C029+84	C038+54	1		6434	C029+84		06/05/2021 01:01
C028+03	C029+28	2		6434	C029+28		06/05/2021 01:02
C029+70	C039+34	2		6434	C029+84		06/05/2021 01:03
C038+82	C039+62	1		6434	C039+62		06/05/2021 01:29
C039+90	C064+25	2		6434	C039+90		06/05/2021 01:29
C039+90	C064+44	1		6434	C039+90		06/05/2021 01:29
C064+70	C067+29	1		6434	C064+70		06/05/2021 01:29
C064+70	C089+21	2		6434	C064+70		06/05/2021 01:29
C067+71	C089+21	1		6434	C067+71		06/05/2021 01:29

Permission Given To Setup Work Site: 06/05/2021 01:29

Start Work: 06/05/2021 01:54

Work Site Cleared by Requestor: 06/05/2021 06:03

OCC Comments: @0726

As of 06/05/2021 13:31
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Attachment 1 – DECO/IRPG GOTRS Senior RWIC Page 4 of 5

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113800800	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:		Equipment on Track:	1
Requestor:		Allow Piggybacks:	True
Requestor Organization:	DECO/IRPG	In Piggyback:	Yes, Senior
Switch Order:		Power Outage:	Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	Radio- C02 to C04 Install		

Close-Out Summary

OCC Assistant Superintendent
Comments:

Requestor Comments:

OCC Delays

As of 06/05/2021 13:31
5 of 5

Attachment 1 – DECO/IRPG GOTRS Senior RWIC Page 5 of 5

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113905700	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:	[REDACTED]	Allow Piggybacks:	True
Requestor Organization:	TRST/TRACK/MAINTN	In Piggyback:	Yes, Junior
Switch Order:		Power Outage:	Supervisory Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)		

Location, Work Type and Description

Location:	Mainline
Non-Wayside Location Type:	
Request Type:	Regular
Charge Job Number:	
Contract Number:	
Maximo Work Order:	
Request Group:	No
Location Description:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)
Request Description:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)
Work Type:	Interlocking Work
Meeting Location:	B99
PB Meeting Location:	
Tools and Equipment:	RMM, Hand Tools, PPE
Equipment on Track:	RMM

Track 2

Actual Work Area:	C026+00	C035+00
Protected Work Area:	C021+00	C040+00

Hot Stick Info. Third Rail Gaps:

From	To	Track ID
C029+84	C038+54	1
C038+82	C039+62	1
C039+90	C064+44	1
C064+70	C067+29	1
C067+71	C089+21	1
D005+41	C029+28	1
C028+03	C029+28	2

As of 06/05/2021 13:33
1 of 4

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113905700	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:	[REDACTED]	Allow Piggybacks:	True
Requestor Organization:	TRST/TRACK/MAINTN	In Piggyback:	Yes, Junior
Switch Order:		Power Outage:	Supervisory Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)		

C029+70	C039+34	2
C039+90	C064+25	2
C064+70	C089+21	2
D005+41	C027+61	2

Date & Time

Start: 06/05/2021 01:00 **End:** 06/05/2021 06:30

Contacts

Entered by

[REDACTED]

Work: [REDACTED]
Cell: [REDACTED] **Home:** [REDACTED]

Requestor

[REDACTED]

Work: [REDACTED]
Cell: [REDACTED]

WMATA Manager

[REDACTED]

Work: [REDACTED]
Cell: [REDACTED] **Home:** [REDACTED]

Emergency Contact

[REDACTED]

Work: [REDACTED]
Cell: [REDACTED] **Home:** [REDACTED]

Support

SUPPORT GROUP	Crew Size
TRST/TRACK	5
ESCORT GROUP	Crew Size
ATCM	2

Request Change History

Date	Event
05/19/2021 23:18	Request was cloned from Request 202111704300.
05/21/2021 00:24	Request was edited. Field(s) changed: Work Location Description, Request Title, Work Description.

As of 06/05/2021 13:33
2 of 4

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113905700	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:	[REDACTED]	Allow Piggybacks:	True
Requestor Organization:	TRST/TRACK/MAINTN	In Piggyback:	Yes, Junior
Switch Order:		Power Outage:	Supervisory Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)		

Request Change History

Date	Event
05/24/2021 15:21	Request status was changed to Approved
06/05/2021 01:28	Work Prep was completed.
06/05/2021 01:31	Work Prep was edited. Field(s) changed: Equipment, Requestor Comment. Equipment: to PM40. Requestor Comment: [REDACTED]
06/05/2021 03:00	Request status was changed to Opened
06/05/2021 12:13	Request status was changed to Closed

Request Group

Request Number	Description
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Piggyback

Request Number	Order	Inherits Rights	Request Status	Piggyback Status	Track	Protected Area Start	Protected Area End
202113800800 Radio- C02 to C04 Install	SR	N/A	Closed	Agreed	1	C010+00	C085+00
202113800800 Radio- C02 to C04 Install	SR	N/A	Closed	Agreed	2	C010+00	C085+00
202113905700 CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)	JR-0	Yes	Closed	Agreed	2	C021+00	C040+00

Piggyback History

Date	User	Event
05/19/2021 23:18	[REDACTED]	Piggyback with Senior Request 202113800800 was formed. Cause: Piggyback invitation was sent.

Red Tag information

Red Tag #: Request is not Red Tag.

As of 06/05/2021 13:33
3 of 4

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113905700	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:	[REDACTED]	Allow Piggybacks:	True
Requestor Organization:	TRST/TRACK/MAINTN	In Piggyback:	Yes, Junior
Switch Order:		Power Outage:	Supervisory Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)		

Close-Out Summary

As of 06/05/2021 13:33
4 of 4

Attachment 1 –Junior RWIC piggybacking GOTRS Page 4 of 4

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113905800	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:	[REDACTED]	Allow Piggybacks:	True
Requestor Organization:	TRST/TRACK/MAINTN	In Piggyback:	No
Switch Order:		Power Outage:	Supervisory Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)		

Location, Work Type and Description

Location:	Mainline
Non-Wayside Location Type:	
Request Type:	Regular
Charge Job Number:	
Contract Number:	
Maximo Work Order:	
Request Group:	No
Location Description:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)
Request Description:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)
Work Type:	Interlocking Work
Meeting Location:	B99
PB Meeting Location:	
Tools and Equipment:	RMM, Hand Tools, PPE
Equipment on Track:	RMM

Track 2

Actual Work Area:	A026+00	A039+00
Protected Work Area:	A021+00	A044+00

Hot Stick Info. Third Rail Gaps:

From	To	Track ID
A005+01	A044+81	2

Date & Time

Start:	06/05/2021 01:00	End:	06/05/2021 06:30
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Contacts

Entered by	Requestor
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As of 06/06/2021 21:18
1 of 4

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113905700	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:	[REDACTED]	Allow Piggybacks:	True
Requestor Organization:	TRST/TRACK/MAINTN	In Piggyback:	Yes, Junior
Switch Order:		Power Outage:	Supervisory Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)		

C029+70	C039+34	2
C039+90	C064+25	2
C064+70	C089+21	2
D005+41	C027+61	2

Date & Time

Start: 06/05/2021 01:00 **End:** 06/05/2021 06:30

Contacts

Entered by

[REDACTED]

Work: [REDACTED]
Cell: [REDACTED] **Home:** [REDACTED]

Requestor

[REDACTED]

Work: [REDACTED]
Cell: [REDACTED]

WMATA Manager

[REDACTED]

Work: [REDACTED]
Cell: [REDACTED] **Home:** [REDACTED]

Emergency Contact

[REDACTED]

Work: [REDACTED]
Cell: [REDACTED] **Home:** [REDACTED]

Support

SUPPORT GROUP	Crew Size
TRST/TRACK	5

ESCORT GROUP	Crew Size
ATCM	2

Request Change History

Date	Event
05/19/2021 23:18	Request was cloned from Request 20211704300.
05/21/2021 00:24	Request was edited. Field(s) changed: Work Location Description, Request Title, Work Description.

As of 06/05/2021 13:33
2 of 4

Attachment 1 –Junior RWIC GOTRS for A-Line Page 2 of 4

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113905800	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:	[REDACTED]	Allow Piggybacks:	True
Requestor Organization:	TRST/TRACK/MAINTN	In Piggyback:	No
Switch Order:		Power Outage:	Supervisory Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)		

Request Change History

Date	Event
06/05/2021 04:05	Work Prep was edited. Field(s) changed: Equipment. Equipment: PM40 - B99 - A02/2 Glenmont End PM60-B99 A02/2 Shady End to PM40 - B99 - A02/2 ShadyEnd PM60-B99 A02/2 Glenmont End.
06/05/2021 12:10	Request status was changed to Closed

Request Group

Request Number	Description
----------------	-------------

Piggyback

No active piggybacks found

Red Tag information

Red Tag #: Request is not Red Tag.

Close-Out Summary

Final Status:	Closed
Request To Begin Work:	06/04/2021 23:28
Request to De-Energize:	06/05/2021 01:32
De-Energization Completed; RWIC notified:	06/05/2021 01:32
Hot Stick:	06/05/2021 01:35

From	To	Track ID	Waive(?)	Unit #	Chain Marker	Entered By	Date
A005+01	A044+81	2		6412	A035+00	[REDACTED]	06/05/2021 01:35

Permission Given To Setup Work Site:	06/05/2021 01:45
Start Work:	06/05/2021 02:06
Work Site Cleared by Requestor:	06/05/2021 07:21

As of 06/06/2021 21:18
3 of 4

Attachment 1 –Junior RWIC GOTRS for A-Line Page 3 of 4

GOTRS - GENERAL ORDERS & TRACK RIGHTS SYSTEM

Track Rights Request

Request Summary

Request Number:	202113905800	Track Access:	True
Dates Requested:	06/05/2021 01:00 to: 06/05/2021 06:30	Clear In Ten:	False
Request Status:	Closed	Equipment on Track:	1
Requestor:	[REDACTED]	Allow Piggybacks:	True
Requestor Organization:	TRST/TRACK/MAINTN	In Piggyback:	No
Switch Order:		Power Outage:	Supervisory Supervisory
Lock Out / Tag Out:		Additional AC:	
Request Title:	CORE / C&A Connector - A02 TRK#2 Interlocking Maint. (ATC Joint Elimination)		

Close-Out Summary

OCC Comments:

**OCC Assistant Superintendent
Comments:**

Requestor Comments:

OCC Delays

Delay #	From	To	Reason	Re-Hot Stick Done
1	06/04/2021 23:37	06/05/2021 01:31	Adjacent to Red Tag	06/05/2021 01:31

As of 06/06/2021 21:18
4 of 4

Attachment 1 – TRST RWIC 6412 GOTRS for A-Line Page 4 of 4

Attachment 1 – TRST Junior RWIC GOTRS for A-Line Page 4 of 4

Appendix E – TPSO Form



ROCC POWER RESTORATION VERIFICATION RECORD ADDITIONAL PAGE

Page 4 of 4

DATE: 6/5/21		OPS DESK: 1 2 3		SHIFT: DAY MID OWL				
GOTRS RID	BREAKER NUMBER	WORKERS CLEAR (INCL. SHUNT STRIP REMOVAL TIME & RWCC #)	EMERGENCY PERSONNEL CLEAR IF APPLICABLE (FIRE LIAISON SIGN/TIME)	POWER ANNOUNCEMENT (TIME)	RTCS COMMUNICATE (TIME)	SAFETY VERIFICATION (TPSO SIGN/TIME)	ENABLE CLOSE (TIME)	BREAKERS CLOSED (TIME)
202114603106	D09 TB 43	620		0615	0620		0620	0621
	D10 TP 31, 33, 35	0602						
	D10 TB 41, 43							
	D11 TP 33, 35							
202113800800	C04 TP 33, 34	6434		0615	0623		0623	0623
	C04 TB 41, 42, 43, 44, 45	0600						
	C03 TP 31, 32, 33, 34, 35							
	C02 TB 41, 42, 43, 44, 45							
	C01 TP 31, 32, 33							

NOTE: DOCUMENT RED TAG OUTAGES IN RED; SUPERVISORY OUTAGES IN BLACK

BUTTON CONTROLLER

Name

Signature

Date 6/5/21 Time 0626

RADIO CONTROLLER

Name

Signature

Date 06/05/21 Time 0627

THIRD PARTY SAFETY OFFICIAL

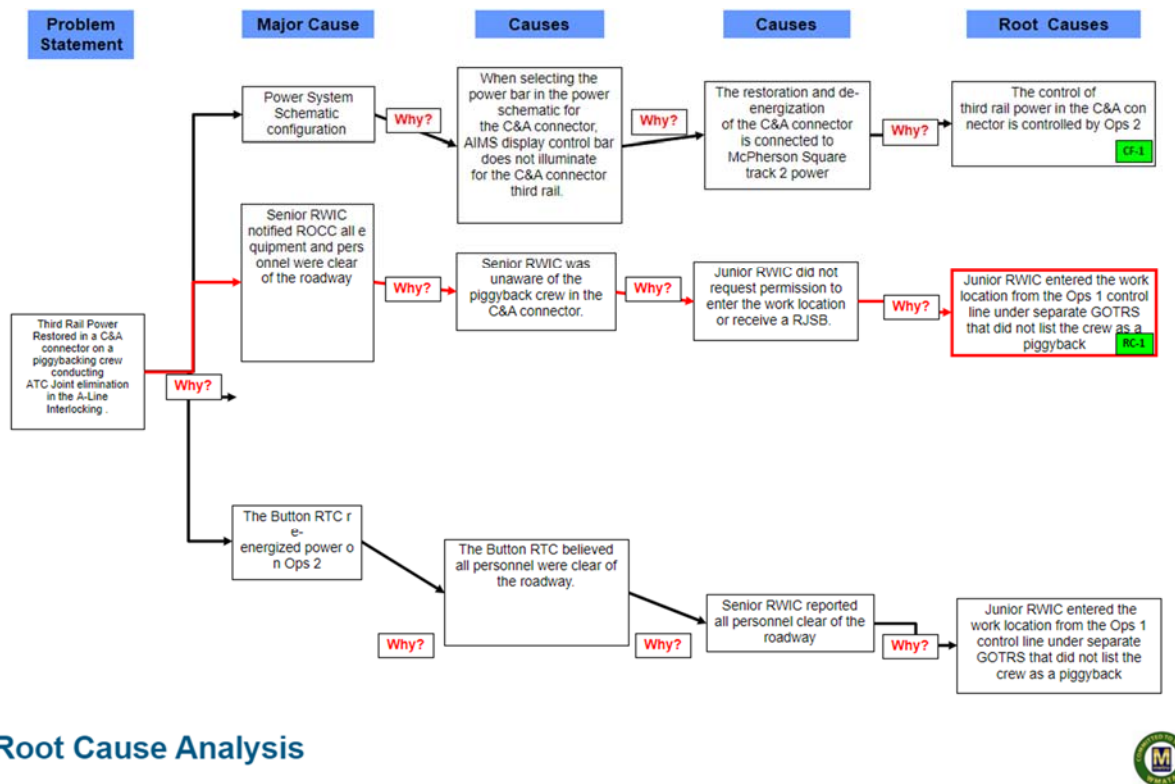
Name

Signature

Date 06/05/21 Time 0628

Attachment 1 – TPSO form ROCC used to restore third rail power in the C&A page 1 of 1.

Appendix F – Root Cause Analysis



Root Cause Analysis

Attachment 1 – RCA for Improper RWP protection page 1 of 1.

28.5.7 Restoration of Third Rail Power and Clearing of a Work Area Under a Supervisory Outage:

- 28.5.7.1 Upon completion of the inspection, the RWIC shall contact ROCC advising them that the work area has been inspected for re-energization, all personnel/equipment are clear of the track(s), and give ROCC clearance to reenergize the third rail in the area.
- 28.5.7.2 When ROCC receives the clearance from the RWIC, and no other crews are holding the same third rail area out of service, ROCC shall ensure that announcements are made on their radio net and the MOC net that third rail power is being restored in the work area and allow at least one minute for a response to the announcement before closing breakers.
- 28.5.7.3 After announcements have been made, ROCC shall reenergize the third rail in the cleared work area. ROCC shall record the request to reenergize in the power outage or restoration request log and also the time the restoration was completed.

28.5.8 Additional Requirements when more than One Crew is Working in a Single Work Area (Piggybacking):

- 28.5.8.1 The RWIC who holds the track rights is responsible for all activities within the work area, to include but not be limited to:
 - 28.5.8.1.1 All communication and coordination with ROCC.
 - 28.5.8.1.3 Monitoring of the activities of all crews within the work area.
 - 28.5.8.1.4 Ensuring that all personnel and equipment of all work crews in the work area are clear and that the entire area is safe for train movement prior to turning the work area back to ROCC.
- 28.5.8.2 The person in charge of the piggybacking crew must contact the RWIC for permission to enter the RWIC's work area and notify ROCC.