



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161201-WMATA-WP-1		
	2016	12	01				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	Track	Sub- Department	
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]				
Inspection Location	Twinbrook (A13) to Rockville (A14)						


Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-JSB-OBS	TRK-WI-PI				
Inspection Units	1	1				
Inspection Subunits	1	1				
Defects (Number)	0	2				
Recommended Finding	No	Yes				
Remedial Action Required ¹	No	Yes				
Recommended Reinspection	No	Yes				

Activity Summaries

Inspection Activity #	1	Inspection Subject	Job Safety Briefing				Activity Code	TRK	JSB	OBS	
Job Briefing Employee Name/Title	TRST 6431		Accompanied Inspector?	Yes	Out Brief Conducted	No	Time	1000-1230	Outside Shift	No	
Related Reports	N/A		Related CAPS / Findings	N/A							
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP		Standard		Other / Title		Checklist Reference			
	RWPM										
	MSRPH										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X							X			
Line(s)	A	Track Number	1	Chain Marker and/or Station(s)		From		To			
						Twinbrook (A13)		Rockville (A14)			
Vehicles	Head Car Number		Number of Cars		Equipment		N/A				
	N/A		N/A								
Description	TRST 6431 provided a comprehensive job safety briefing to the work gang prior to accessing the right of way (ROW) at Twinbrook. The briefing outlined the work limits of the inspection, the protection that would be used (Train Approach Warning with Foul Time in red areas), the required Personal Protective Equipment (PPE), a review of hot spots, and a review of hazards which would be encountered on the ROW. TRST 6431 inspected all employees and FWSO members to ensure all required PPE was in place and that all RWP training was current. No exceptions						Number of Defects		0		
							Recommended Finding?		No		
							Remedial Action Required?		No		
							Recommended Reinspection?		No		

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature	 Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.13 14:30:12 -05'00'	Date
Inspector in Charge - Name		Winslow Powell
Inspection Team	Mike Vitale	



	were taken with the briefing.			
Remedial Action	N/A			
Inspection Activity #	2	Inspection Subject	Remedial Action Verification	
Activity Code	TRK	WI	PI	
Job Briefing Employee Name/Title	TRST 6431	Accompanied Inspector?	Yes	Out Brief Conducted
Related Reports	N/A	Related CAPS / Findings	N/A	
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP	Standard	Other / Title
	RWPM			
	MSRPH			
Inspection Location	Main Track	Yard	Station	OCC
	X			
Line(s)	A	Track Number	1	Chain Marker and/or Station(s)
Vehicles	Head Car Number	Number of Cars		Equipment
	N/A	N/A		N/A
Description	<p>FWSO performed a track inspection from Twinbrook (A13) to Rockville (A14) to follow up on open remedial actions from the previous SafeTrack surge. FWSO closed remedial actions 910, 911, 912, 913, and 914 requiring WMATA to repair damaged Emergency Trip Station (ETS) boxes. However, the ETS box at A2 747+00 was still missing a door.</p> <p>FWSO also closed remedial action 939 which was related to soil erosion near a bridge abutment, as well as 940, related to a ballast built up too high underneath the third rail.</p> <p>FWSO was not able to close remedial action 935 because the vegetation cited has not been trimmed. As shown in the photo below, overgrowth from a bush near the ROW is coming very close to the dynamic envelope of trains passing underneath. WMATA should arrange to have this overgrowth cut back.</p>			<p>Number of Defects</p> <p>Recommended Finding?</p> <p>Remedial Action Required?</p> <p>Recommended Reinspection?</p>
Remedial Action	1. WMATA must replace the door on the ETS Box at A2 747+00.			



Photos:



Vegetation growing close to dynamic envelope of train



ETS Box with door missing A2 747+00



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United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161201-WMATA-WP-2		
	2016	12	01				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	TRST	Sub- Department	Production
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Surge 11, Orange (K) Line						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-RWP-OBS	TRK-GEN-INS				
Inspection Units	1	1				
Inspection Subunits	2	1				
Defects (Number)	0	4				
Recommended Finding	No	No				
Remedial Action Required ¹	No	No				
Recommended Reinspection	No	No				

Activity Summaries

Inspection Activity #	1	Inspection Subject	Roadway Worker Protection – Job Safety Briefing				Activity Code	TRK	RWP	OBS	
Job Briefing Employee Name/Title	TRST UNIT 6014 – SAFE 202-RWIC, TRST-6392			Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	0900 1430	Outside Shift	Yes
Related Reports	Related CAPS / Findings										
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP			Standard		Other / Title		Checklist Reference		
	RWPM										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X							X			
Line(s)	Orange Line	Track Number	1	Chain Marker and/or Station(s)			From	To			
							K-05	K-98			
Vehicles	Head Car Number		Number of Cars		Equipment		N/A				
	N/A		N/A								
Description	The Job Safety Briefing was provided by TRST Unit 6041 at the SafeTrack Surge 11 entrance. The briefing was comprehensive and complete. It included WMATA level 1 ID check, safety rule review (4.92), red tag outage numbers, MOC telephone							Number of Defects		0	
								Recommended Finding?		No	
								Remedial Action Required?		No	

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Inspector in Charge - Signature WINSLOW L. POWELL	Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.15 16:31:07 -05'00'	Date December 1, 2016
Inspector in Charge – Name Winslow Powell	Inspection Team Alexander Nepa	



	number, type of protection in place (Inaccessible Track), locations of barriers and mats, hospital location, and potential hazards. Prior to entering the work zones, RWIC TRST 6392 obtained joint authority and permission to enter the work zones. No exceptions were taken to the briefing.	Recommended Reinspection?	No
Remedial Action	N/A		

Inspection Activity #	2	Inspection Subject	Track General Inspection					Activity Code	TRK	GEN	INS
Job Briefing Employee Name/Title	TRST-6392 and SAFE-202			Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	0900 1430	Outside Shift	No
Related Reports				Related CAPS / Findings							
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP			Standard		Other / Title		Checklist Reference		
	TRST 1000										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X							X			
Line(s)	Orange Line	Track Number	1	Chain Marker and/or Station(s)		From		To			
						B-06		B-35			
Vehicles	Head Car Number		Number of Cars		Equipment		N/A				
	N/A		N/A								
Description	<p>A random inspection of SafeTrack Surge 11 at East Falls Church from CM 409+04 to CM 437+00 was performed. The following defects were identified:</p> <ol style="list-style-type: none"> TRST 1000 defect: Inspection of the crossties installed in the surge area revealed that approximately 30% of the ties were not 9 inches wide, as required per WMATA TRST standards. (See TRST 1000 manual section 6.3.) Measurements ranged from 7 ½ to 8 ½ inches. Additionally, 30% of the crossties inspected appeared to be sub-class "A" ties with cracks and splits apparent. TRST 1000 defect: Approximately 15% of the ties inspected revealed tie plates were not properly placed on the ties. (See TRST 1000 manual section 7.4.) Plates were not centered, allowing a breach of the plate on one end. RWP defect: The Cranemaster excavator picking up scrap did not sound horn to warn roadway workers in the immediate area prior to moving. TRST defect: Inspection of the surge area revealed inconsistent tie spacing in excess of the 27 inch WMATA specification. (See TRST 1000 manual section 6.3.) <p>Note: The noncompliant crossties are an issue under discussion with WMATA at this time, and a final mitigation plan or approach has not yet been agreed upon.</p> <p>FWSO observed that the continuous welded rail (CWR) installation procedures appeared inconsistent with industry standards. There was no evidence of rail adjustment equipment, and the number of adjustment marks for the length of rail to be installed appeared insufficient.</p> <p>Additionally, the Pandrol clips on 10% of the ties installed were applied too tight, not allowing for the required distance between the clip and the plate.</p>							Recommended Finding?	4		
								Remedial Action Required?	No		
								Recommended Reinspection?	No		
Remedial Action	N/A										

Photos:



Figure 1 - Plate overhanging tie by one inch.



Figure 2 - Plate not centered.



Figure 3 – Tight spacing.



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Form FTA-IR-1

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Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161201-WMATA-WP-3		
	2016	12	01				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	POWR	Sub- Department	PMI
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	K08 - Vienna – TPSS (Traction Power Substation)						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TP-RM-OBS					
Inspection Units	1					
Inspection Subunits	2					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	34.5kV Incoming Utility Feed, Overcurrent (ANSI ID - 50/51) Relay and (ANSI ID - 27) Undervoltage Relay Preventive Maintenance Inspection			Activity Code	TP	RM	OBS	
Job Briefing Employee Name/Title	N/A		Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	0800-1100	Outside Shift	No
Related Reports				Related CAPS / Findings						
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP	Standard		Other / Title		Checklist Reference			
	PMI Overcurrent Relays 34.5 & 13.8 kV AC Systems 728/1090 Day Inspection - REV 2, June 21, 2013									
	ABB (Manufacturer Leaflet) 41-101U Type CO-5 HILO Relay for (50/51) Overcurrent Relay									
	PMI Under/Over Voltage Relays 34.5 & 13.8 kV 720/1090 Day Inspection – REV 3, September 8, 2000									

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Inspector in Charge - Signature		Date
WINSLOW L. POWELL <small>Digitally signed by WINSLOW L. POWELL DN: cn=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2017.01.09 12:01:19 -0500</small>		
Inspector in Charge – Name	Inspection Team	
Winslow Powell	Tino Sahoo	



Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
			X								
Line(s)	K Line	Track Number	N/A	Chain Marker and/or Station(s)	From		To				
					K08 – Vienna TPSS		K08 – Vienna TPSS				
Vehicles	Head Car Number		Number of Cars		Equipment	Overcurrent (50/51) and Undervoltage (27) Relay					
	N/A		N/A								
Description	<p>The FWSO inspector observed the WMATA Power Supervisor of West Falls Church and two WMATA relay maintenance technicians perform preventive maintenance on overcurrent (ANSI ID - 50/51) and undervoltage (ANSI ID – 27) relays on AC switchgear (AC SWGR) cabinets/cubicles. The job safety briefing outlining any safety hazards and work to be performed was done by the WMATA Power Supervisor and his two relay techs prior to entering the TPSS.</p> <p>Relays were removed from AC SWGR cubicles, tested for proper functionality, and calibrated using a relay test apparatus (see Figure 4). WMATA engineering dictates the proper settings and parameters that the relays are to be set to respective of each location. Preventive Maintenance Inspection (PMI) procedures were followed properly for testing, calibration, and maintenance of the relays with no issues or concerns.</p> <p>Overcurrent relay (50/51) is connected on the line side of the primary breaker of the incoming 34.5kV utility feed via a Current Transformer (CT). (See Figures 1 and 2.)</p> <p>Undervoltage relay (27) connected on the line side of the primary breaker of the incoming 34.5kV utility feed via a Potential Transformer (PT). (See Figure 3.)</p>						Number of Defects		0		
							Recommended Finding?		No		
							Remedial Action Required?		No		
							Recommended Reinspection?		No		
Remedial Action	N/A										



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FIGURE 1 - ABB CO-5 HILO OVERCURRENT (50/51) RELAY

FIGURE 2 - AC SWGR CUBICLE WITH 50/51 RELAYS PER PHASE ON FRONT PNL



FIGURE 3 - GE UNDER/OVER VOLTAGE (27/59) RELAY



FIGURE 4 - TEST APPARATUS FOR RELAYS



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FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161202-WMATA-WP-1		
	2016	12	02				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	POWR	Sub- Department	PMI
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	A08 – Friendship Heights – Tie Breaker House (TB)						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TP-RM-OBS					
Inspection Units	1					
Inspection Subunits	5					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	A08 - Friendship Heights TB - DC Switchgear (Powell) 750VDC Type NDC (High Speed) Circuit Breaker Preventive Maintenance Inspection				Activity Code	TP	RM	OBS	
Job Briefing Employee Name/Title	N/A		Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	0830-1130	Outside Shift	No	
Related Reports	Related CAPS / Findings										
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP			Standard		Other / Title		Checklist Reference		
	PMI for 750-volt DC type NDC (high speed) circuit breaker for Powell switchgear, 365-day inspection – REV 0, June 30, 2014										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
			X								
Line(s)	A Line	Track Number	N/A		Chain Marker and/or Station(s)		From		To		
							A08 – Friendship Heights TB		A08 – Friendship Heights TB		
Vehicles	Head Car Number		Number of Cars			Equipment	750-volt DC Type NDC (High Speed) Circuit Breaker				
	N/A		N/A								

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Inspector in Charge - Signature		Date
WINSLOW L. POWELL <small>Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2017.01.09 10:59:59 -05'00'</small>		
Inspector in Charge – Name	Inspection Team	
Winslow Powell	Tino Sahoo	



Description	<p>Two WMATA high voltage power electricians performed the preventive maintenance on the lineup of 750V DC Type NDC (High Speed) circuit breakers (5 total) on the Powell DC switchgear. These breakers energize the 3rd rail trackside. The job safety briefing outlining potential safety hazards and work to be performed was done by the supervisor at the home rail yard or facility before appearing at the work site. ROCC was notified by WMATA personnel that power was to be de-energized to the individual breaker (ex. TB 172-41). Once the “go-ahead” was given by ROCC, the WMATA electricians put on switching suits and 1000V rated rubber gloves in order to de-energize and rack out the individual breaker. During this switching event, per WMATA protocol, any non WMATA personnel must leave the room in case of any type of potential arc flash events. Maintenance was then performed according to the PMI, and no issues were observed.</p> <p>General Procedure for Preventive Maintenance of 750V DC Type NDC (High Speed) Circuit Breakers:</p> <ol style="list-style-type: none"> 1. Each of the 5 breakers (see Figure 4) have to be racked out of their respective DC switchgear (DC SWGR) cubicle one at a time, therefore maintenance was performed one breaker at a time. (See Figure 2.) 2. Any brake dust and contaminants were wiped away from the surface and internals of the breaker using industrial wipes. A blower and vacuum was also used to blow and suck contaminants from the device. (See Figure 3.) 3. The copper bus “stabs” were greased or lubricated with the manufacturer recommended lubricants. (See Figure 6.) 4. The breaker was wheeled to the breaker test cabinet, which is mounted on the adjacent wall and connected. “Open” and “close” mechanisms of the breaker were tested using the test cabinet. In addition, the high speed trip mechanism of the breaker was also tested. (See Figures 7 and 8.) 5. Micro-Ohm meter was used to measure resistance of the copper bus to ensure it was within the proper limits (very low ohm reading). 6. Inspection of the frame of the high speed breaker was done visually. 7. Inspection of the DC SWGR cubicle was done visually for rust, corrosion, loose connections, dust, and contaminants as well as properly working switches and knobs, DC control power components, and space heaters. (See Figure 5.) 8. Electricians re-racked the high speed breaker back into the DC SWGR cubicle and verified it was properly working. Verification was done by checking the operation of the circuit breaker in the TEST position (operate controls - close and trip breakers electrically), including the annunciator - alarm or target operation, etc. 9. ROCC was notified that the individual breaker was racked in and energized. 10. Procedures 1-9 were repeated for the other 4 breakers in the lineup. 	Number of Defects	0
		Recommended Finding?	No
		Remedial Action Required?	No
		Recommended Reinspection?	No
Remedial Action	N/A		



Inspection Form

Form FTA-IR-1

United States Department of Transportation
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Figure 1 – HARDCOPY PMI FOR 750V DC TYPE NDC HIGH SPEED BREAKER

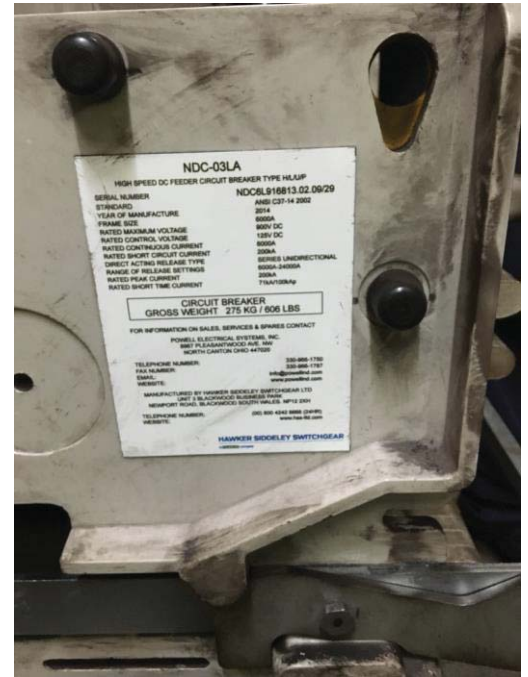


Figure 2 – INDIVIDUAL 750V DC TYPE NDC HIGH SPEED BREAKER

Figure 3 – INTERNAL FRAME OF 750V DC TYPE NDC BREAKER

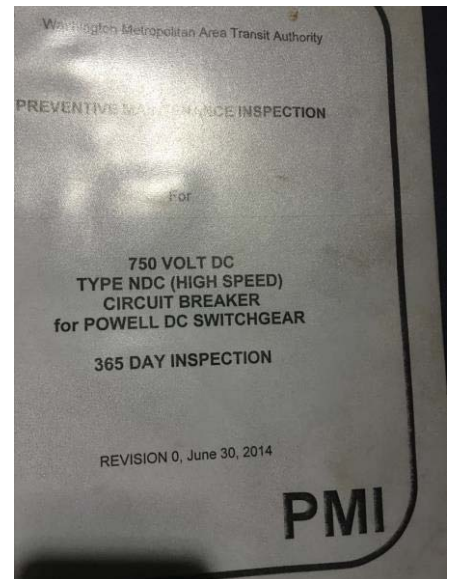




Figure 5 – INTERNAL COMPONENTS OF TOP PANEL ON EACH DC SWGR CUBICLE

Figure 6 – COPPER BUS STABS OF BREAKER



Figure 7 – POWELL BREAKER TEST CABINET

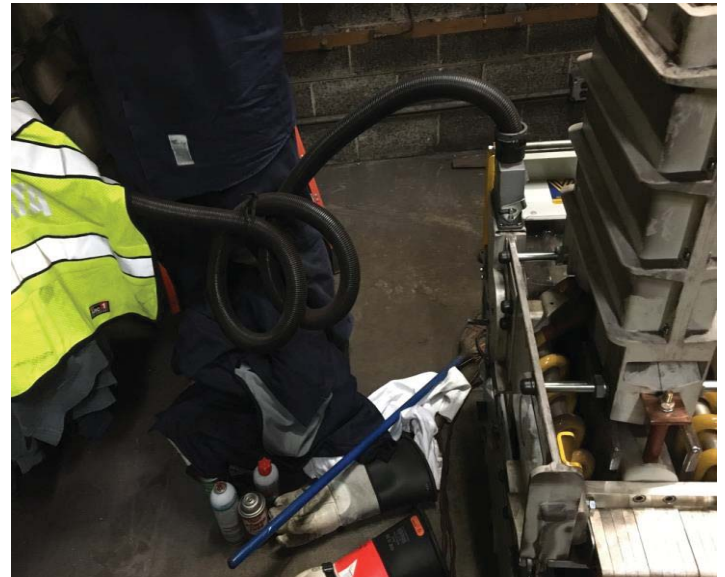


Figure 8 – POWELL BREAKER TEST CABINET CONNECTED TO 750V DC TYPE NDC (HIGH SPEED) BREAKER



Inspection Form

FOIA Exemption: All (b)(6)

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Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161205-WMATA-WP-1		
	2016	12	05				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	TRST	Sub-Department	Production
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	B-Line – Ft. Totten (B06) to Rhode Island Ave. (B04) – Track #1						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-RWP-OBS	TRK-GEN-OBS	OPS-RC-OBS			
Inspection Units	1	1	1			
Inspection Subunits	2	1	12			
Defects (Number)	0	4	0			
Recommended Finding	No	No	No			
Remedial Action Required ¹	No	Yes	No			
Recommended Reinspection	No	Yes	No			

Activity Summaries

Inspection Activity #	1	Inspection Subject	Job Safety Briefing and On-Track Protection				Activity Code		TRK	RWP	OBS
Job Briefing Employee Name/Title	Unit #6392 – RWIC and Briefer Unit #6044 – Watchman/Lookout	Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	1000 – 1345	Outside Shift	No		
Related Reports	Related CAPS / Findings										
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP	Standard	Other / Title		Checklist Reference					
	RWPM										
	MSRPH										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X							X	X	X	
Line(s)	B-Line	Track Number	1	Chain Marker and/or Station(s)			From	To			
							B1 CM276+00	B1 CM165+20			
Vehicles	Head Car Number		Number of Cars		Equipment		N/A				
	N/A		N/A								
Description	Job Safety Briefing:						Number of Defects			0	
	<ul style="list-style-type: none"> The RWIC checked all IDs and Personal Protection Equipment (PPE). 						Recommended Finding?			No	

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Inspector in Charge - Signature WINSLOW L. POWELL	<small>Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.13 14:25:29 -05'00'</small>	Date
Inspector in Charge – Name Winslow Powell	Inspection Team Mike Vitale, Robert Maniuszko	



	<ul style="list-style-type: none"> The RWIC had the FWSO team check his RWP ID as well as that of the Watchman/Lookout. Both were in compliance. The hot spots were discussed for the area to be walked. The hot spots were: <ul style="list-style-type: none"> Blind spot – CM178+00 to 185+00 Portal – CM185+00 to 195+00 Converging track – CM253+00 to 260+00 The Watchman/Lookout would remain in a position of safety to provide ample time to the group when traversing through these areas. Train Approach Warning would be our method of protection. All trains observing Roadway Workers would be required to slow to 10 mph until passing the group (T-16-07). Hazards were also discussed – the 3rd rail was energized, and there were trip hazards and noise from the CSX track adjacent to the WMATA roadway. All roadway workers were instructed that clearance would be toward the fence line except for the area where a center catwalk exists. <p>On-Track Protection:</p> <ul style="list-style-type: none"> Our Watchman/Lookout was always positioned ahead of the group and in a position of safety. All warning of train movement or “Hot Rail” was provided and allowed the group more than 15 seconds to get to a position of safety as required by the RWPM. <p>No exceptions were taken to the Job Safety Briefing or the On-Track Protection.</p>	Remedial Action Required?	No
		Recommended Reinspection?	No
Remedial Action	N/A		

Inspection Activity #	2	Inspection Subject	Surge #10 – Track #1 – General Observations				Activity Code	TRK	GEN	OBS	
Job Briefing Employee Name/Title	Unit #6392 – RWIC and Briefer Unit #6044 – Watchman/Lookout		Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	1000 – 1345	Outside Shift	No	
Related Reports			Related CAPS / Findings								
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP		Standard		Other / Title		Checklist Reference			
	RWPM										
	MSRPH										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X							X	X	X	
Line(s)	B-Line	Track Number	1	Chain Marker and/or Station(s)		From		To			
						B1 CM276+00		B1 CM165+20			
Vehicles	Head Car Number		Number of Cars		Equipment		N/A				
	N/A		N/A								

Description	<p>Areas of Concern:</p> <ul style="list-style-type: none"> At B05 – 3A Switch the guard rail has two loose bolts that need to be tightened. At B05 – 1A Switch the house top has no cotter pin inserted on the #1 and #4 nuts. At B1 CM189+90 the newly poured grout pad on the right rail is crumbling. It appears that the concrete mix was not correct. This is the area where the ballasted track meets up with the direct fixation area in the portal. See photo below. At B1 CM174+00 the grout pad is crumbling on the left rail. There is poor support under four (4) pads in a row. The distance between effective fasteners exceeds 140 inches. <p>NOTE: The TRST RWIC informed the FWSO team that the structures group would be pouring a new grout pad under the left rail the weekend of December 10, 2016.</p>	Number of Defects	4
		Recommended Finding?	No
		Remedial Action Required?	Yes
		Recommended Reinspection?	Yes



	<p>General Observations:</p> <ul style="list-style-type: none"> The FWSO team noted non-conformant crossties at the following locations: <ul style="list-style-type: none"> B1 CM274+60 – 7 ¾" B1 CM202+60 – 7 ¾" B1 CM181+40 – 7 ¾" The team noted new crossties, new ballast, new insulators, and new grout pads and fasteners. ETS boxes were all labeled, and the blue lights were all operational. <p>No exceptions were taken to the work that has been completed in this area.</p> <p>Note: The non-conformant crossties are an issue under discussion with WMATA at this time.</p>		
<p>Remedial Action</p>	<p>WMATA must address and repair the following items:</p> <ol style="list-style-type: none"> At B05 – 3A Switch the guard rail has two loose bolts that need to be tightened. At B05 – 1A Switch the house top has no cotter pin inserted on the #1 and #4 nuts. At B1 CM189+90 the newly poured grout pad on the right rail is crumbling. It appears that the concrete mix was not correct. This is the area where the ballasted track meets up with the direct fixation area in the portal. See photo below. At B1 CM174+00 the grout pad is crumbling on the left rail. There is poor support under four (4) pads in a row. The distance between effective fasteners exceeds 140 inches. 		

Inspection Activity #	3	Inspection Subject	Rule Compliance – T-16-07					Activity Code	OPS	RC	OBS
Job Briefing Employee Name/Title	Unit #6392 – RWIC and Briefer Unit #6044 – Watchman/Lookout		Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	1000 – 1345	Outside Shift	No	
Related Reports			Related CAPS / Findings								
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP			Standard		Other / Title		Checklist Reference		
	T-16-07										
	MSRPH										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X							X	X	X	
Line(s)	B-Line	Track Number	1	Chain Marker and/or Station(s)	From			To			
					B1 CM276+00			B1 CM165+20			
Vehicles	Head Car Number		Number of Cars		Equipment	N/A					
	N/A		N/A								
Description	The following trains were observed for compliance with the requirements of Permanent Order T-16-07.							Number of Defects		0	
								Recommended Finding?		No	
								Remedial Action Required?		No	
								Recommended Reinspection?		No	
	Lead Car Number		Time								
	3055		1054								
	7086		1103								
	5051		1108								
	5009		1121								
	2059		1124								
	7190		1128								
	7008		1133								
2030		1140									
3125		1142									
7074		1156									
6158		1200									
7048		1203									
Every train that passed the group after 1203 hours was monitored as well, and all were found to be in compliance with the requirements of T-16-07.											
Remedial Action	N/A										



Photos:



Figure 1 - B1 CM274+60 - 7 3/4" Crosstie - note split in line with fastener

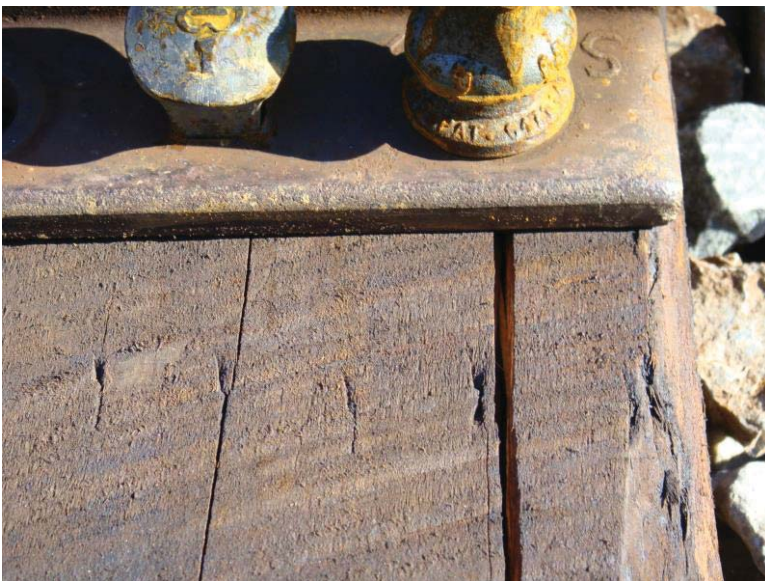


Figure 2 – Same tie - Close up of split on left rail



Figure 3 - Same tie - close up of split on right rail



Figure 4 - B1 CM189+90 - Concern about concrete mix on new grout pad



Figure 5 - Grout Pad at B1 CM174+00 left rail scheduled for completion 12/10/16



Figure 6 - 144" between effective fasteners at B1 CM174+00



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161206-WMATA-WP-1		
	2016	12	06				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	TRST	Sub- Department	Production
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Green, Blue, Orange Lines						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	OPS-RI-OBS					
Inspection Units	1					
Inspection Subunits	2					
Defects (Number)	1					
Recommended Finding	No					
Remedial Action Required ¹	Yes					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Operator Procedure Compliance				Activity Code	OPS	RI	OBS	
Job Briefing Employee Name/Title	N/A		Accompanied Inspector?	No	Out Brief Conducted		Time	1030 1430	Outside Shift	NO	
Related Reports	Related CAPS / Findings										
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP			Standard		Other / Title		Checklist Reference		
	SOP										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X		X					X	X	X	
Line(s)	Green, Blue, Orange Lines	Track Number	1 & 2	Chain Marker and/or Station(s)	From			To			
					West Hyattsville L'Enfant Plaza Metro Center			L'Enfant Plaza Metro Center East Falls Church			
Vehicles	Head Car Number		Number of Cars		Equipment	N/A					

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature		Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.15 16:20:55 -05'00'	Date
WINSLOW L. POWELL			
Inspector in Charge - Name	Inspection Team		
Winslow Powell	Corwyn N. Foster, Alexander Nepa, Kevin McDonald		



Description	<p>FWSO conducted a train operator compliance observation based on the SOP and observed the following:</p> <ol style="list-style-type: none"> 1. SOP 3.87.1 violation: Green line train number 501, lead car number 7194. Operator failed to sound horn when entering portal between West Hyattsville and Fort Totten. 2. Blue line train number 411, lead car number 6163. A disruptive passenger was reported to the operator. 3. Orange line train number 905, lead car number 5070. No exceptions were taken and the operator was in full compliance of SOP during observation. 	Number of Defects	1	
		Recommended Finding?	No	
		Remedial Action Required?	Yes	
		Recommended Reinspection?	No	
Remedial Action	WMATA should explore and evaluate appropriate actions for noncompliance to SOP requirements.			



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161206-WMATA-WP-2		
	2016	12	06				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	POWR	Sub- Department	CM
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	E08 – Prince George’s Plaza – AC Electrical Room						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TP-RM-OBS					
Inspection Units	1					
Inspection Subunits	2					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	Yes					

Activity Summaries

Inspection Activity #	1	Inspection Subject	E08 - PG Plaza - AC Electrical Room - 480V AC Switchgear Corrective Maintenance to fix incorrect remote status (energized/de-energized) showing in ROCC via DTS box of secondary main breakers on SWBD 1 and SWBD 2. (Troubleshooting)				Activity Code	TP	RM	OBS	
Job Briefing Employee Name/Title	N/A	Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	0100-0500	Outside Shift	Yes		
Related Reports	Related CAPS / Findings										
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP	Standard	Other / Title		Checklist Reference					
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
			X								
Line(s)	E Line	Track Number	N/A	Chain Marker and/or Station(s)		From		To			
						N/A		N/A			
Vehicles	Head Car Number		Number of Cars		Equipment	480V AC Switchgear Cubicles and Secondary Main Breakers					
	N/A		N/A								
Description	Both the WMATA Corrective Maintenance (CM) crew and the WMATA Region crew were in attendance for the night shift. A job safety briefing outlining any safety						Number of Defects		0		
							Recommended Finding?		No		

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature WINSLOW L. POWELL	<small>Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2017.01.09 11:05:24 -05'00'</small>	Date
Inspector in Charge – Name Winslow Powell	Inspection Team Tino Sahoo	

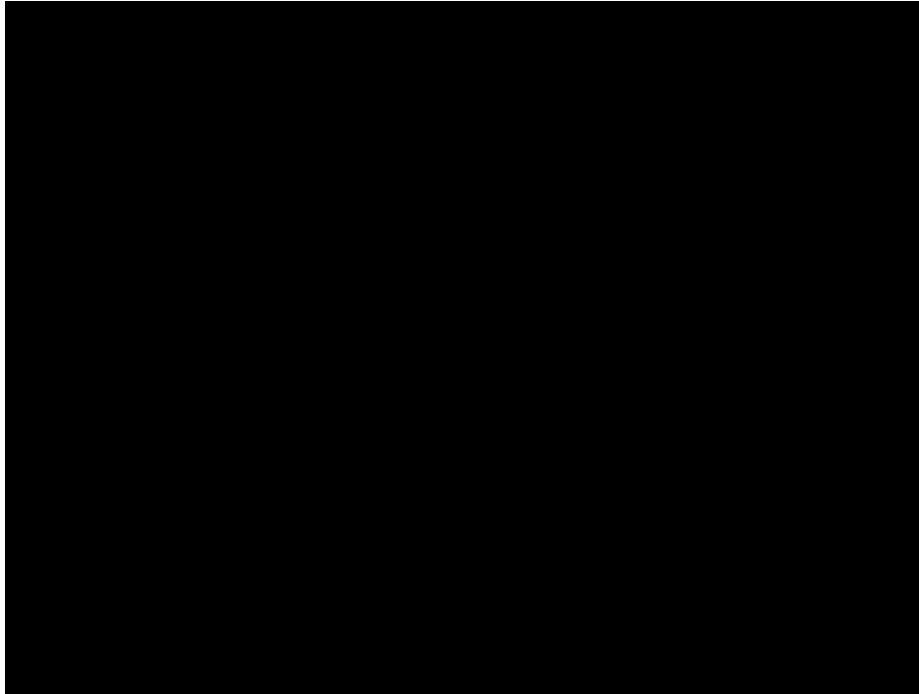


FIGURE 1 – SINGLE LINE DIAGRAM OF AC POWER DISTRIBUTION SYSTEM AT PG PLAZA; ROCC HAVING REMOTE INDICATION PROBLEMS WITH STATUS (OPEN/CLOSE) OF SECONDARY MAIN BREAKERS CIRCLED IN RED ABOVE.

FIGURE 2 – LOCKOUT/RED TAG TO DE-ENERGIZE POWER EQUIPMENT





FIGURE 3 – POSTERIOR OF SECONDARY MAIN BREAKER, COPPER BUS STABS



FIGURE 4 – TEST APPARATUS FOR SECONDARY MAIN BREAKER

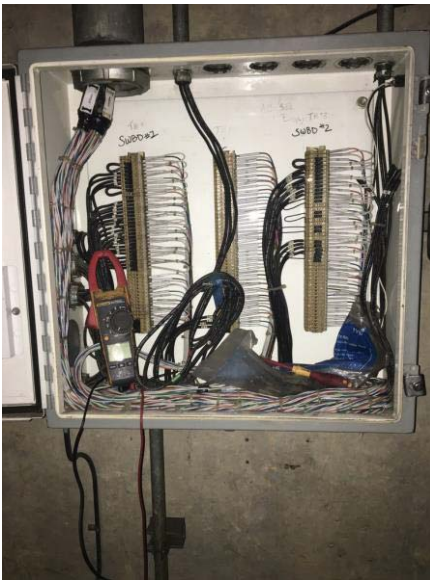


FIGURE 5 – DTS (DATA TRANSMISSION SYSTEM) CABINET



FIGURE 6 – SECONDARY MAIN BREAKER CUBICLE ON AC SWGR, TRYING TO TROUBLESHOOT THE RELAYS



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161207-WMATA-WP-1		
	2016	12	07				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	TRST	Sub- Department	Maintenance
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]				
	[REDACTED]		[REDACTED]				
	[REDACTED]		[REDACTED]				
Inspection Location	Red line						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-RWP-OBS					
Inspection Units	1					
Inspection Subunits	6					
Defects (Number)	1					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Roadway Worker Protection – Job Safety Briefing				Activity Code		TRK	RWP	OBS
Job Briefing Employee Name/Title	- TRST UNIT 6326, RWIC - TRST UNIT 679, Watchman/Lookout - SAFE UNIT 202	Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	1000 1200	Outside Shift	NO		
Related Reports	Related CAPS / Findings										
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP	Standard		Other / Title		Checklist Reference				
	RWPM										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X		X						X		
Line(s)	Red Line	Track Number	2	Chain Marker and/or Station(s)	From			To			
					A-B 45+00 (Metro Center)			A-B 00+00 (Gallery Place)			
Vehicles	Head Car Number		Number of Cars		Equipment	N/A					
	N/A		N/A								
Description	The FWSO team scheduled a walking inspection of the Red line between Metro							Number of Defects		1	

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature WINSLOW L. POWELL		Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.19 14:38:57 -05'00'	Date
Inspector in Charge – Name Winslow Powell	Inspection Team Corwyn N. Foster, Alexander Nepa, Kevin McDonald		



	<p>Center and Gallery Place. Prior to entering the roadway, a Job Safety Briefing was conducted by TRST unit 6392 on the platform of the metro station. The briefing included the type of protection—Train Approach Warning (TAW), working limits, clearance spots (designated spots of safety), hazards, hot spots and no clearance zones, closest hospitals, placement of Watchman/Lookout, and a check of inspection of badges and personal protective equipment.</p> <p>At the end of the safety briefing, the RWIC asked the work group if there were any questions or concerns. The FWSO team took exception to the type of protection (TAW) in place, specifically citing the Watchman/Lookout in violation of RWP rule 2.7 and 4.7, and made a Good Faith Challenge.</p> <p>WMATA’s Roadway Worker Protection (RWP) rule requires that the Watchman/Lookout shall have their approved and required PPE and safety equipment, including the “W” disk, whistle, and air horn before they enter the Roadway. The Watchman/Lookout did not have the “W” disk or an air horn.</p> <p>SAFE unit 202 acted as dispute mediator and agreed that the Watchman/Lookout was not in compliance with RWP rule 2.7 and 4.7. He immediately prohibited any WMATA or FTA personnel from entering the roadway.</p> <p>Note: Requirements for the “W” Disk are under discussion at WMATA. FWSO and WMATA are working to develop an acceptable alternative approach to managing PPE and safety equipment requirements for RWP.</p>	Recommended Finding?	No
		Remedial Action Required?	No
		Recommended Reinspection?	No
		Remedial Action	N/A



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161207-WMATA-WP-2		
	2016	12	07				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	POWR	Sub- Department	CBL. IN.
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	N01 – Mclean Station Track 2, CM655+00 to CM532+00						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TP-WI-OBS					
Inspection Units	1					
Inspection Subunits	5					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Mainline Cable Inspection				Activity Code	TP	WI	OBS	
Job Briefing Employee Name/Title	ID # - 012897 (RWIC) ID # - 011248 (Watchman) ID # - 013832 (Documenter)	Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	1000-1400	Outside Shift	No		
Related Reports	Related CAPS / Findings										
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP		Standard		Other / Title		Checklist Reference			
	RWPM										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X							X		X	
Line(s)	N Line	Track Number	2	Chain Marker and/or Station(s)		From		To			
						N2 CM655+00		N2 CM532+00			
Vehicles	Head Car Number		Number of Cars		Equipment	N/A					
	N/A		N/A								
Description	The Job Safety Briefing was comprehensive. The hot spots, hazards, clearance areas, communication, and Roadway Access Guide were used as part of						Number of Defects		0		
							Recommended Finding?		No		
							Remedial Action Required?		No		

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature WINSLOW L. POWELL <small>Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2017.01.09 11:14:42 -0500</small>	Date
Inspector in Charge – Name Winslow Powell	Inspection Team Tino Sahoo



	<p>the discussion. No exception was taken to the Job safety briefing. WMATA cable inspection crews include three personnel (RWIC, Watchman, and documenter of issues in wayside power cable and/or connections), and on a typical day there are three different crews that are active. Each crew inspects a different portion of the mainline from 1000–1400 (non-rush hours). The pictures taken and issues noted were entered into a database in order to create Maximo work orders.</p> <p>Daily cable inspections are part of the holistic approach WMATA is instituting to prevent cable fires and arcing incidents. As outlined below, the following issues with the power cables were noted by the FWSO inspector and WMATA personnel during the course of the normal daily cable inspection process. FWSO will follow up to confirm the conclusion of the work once cable issues have been corrected.</p> <ul style="list-style-type: none"> • TRK 2 CM 634+00 – Cables lying on deck and missing fiberglass standoff with Kindorf strap. (See Figures 1 & 2.) • TRK 2 CM 620+00 – Walking Pavers in Track Clearance Zone collapsed. (See Figure 3.) • TRK 2 CM 614+00 – Cables lying on deck and missing fiberglass standoff with Kindorf strap. Kindorf strap nut and bolt assembly coming loose, needs to be torqued properly. (See Figure 4.) • TRK 2 CM 591+00 – Cables lying on deck and missing fiberglass standoff with Kindorf strap. Kindorf strap nut and bolt assembly coming loose, need to be torqued properly (See Figure 5.) • TRK 2 CM 580+00 – Cables lying on deck and missing fiberglass standoff with Kindorf strap. Kindorf strap nut and bolt assembly coming loose, need to be torqued properly (See Figure 6.) • TRK 2 CM 551+00 — Cables lying on deck and missing fiberglass standoff with Kindorf strap. Kindorf strap nut and bolt assembly coming loose, need to be torqued properly. Steel Kindorf used to keep cables from lying on the ground became loose—presumably from train vibration—and were positioned very close 3rd Rail. (See Figure 7.) RWIC called in for immediate corrective action to be taken. <p>General Observations:</p> <ul style="list-style-type: none"> • Cables lying on the deck are prone to the vibration of the trains moving back and forth, which can cause premature degradation of the cables, especially in the outdoor areas where cables are lying on ballast. • An unusual number of Kindorf strap bolt/nut assemblies have come loose. WMATA needs to ensure proper torqueing of assembly is followed per EMI. 	<p>Recommended Reinspection?</p>	<p>No</p>
<p>Remedial Action</p>	<p>N/A</p>		



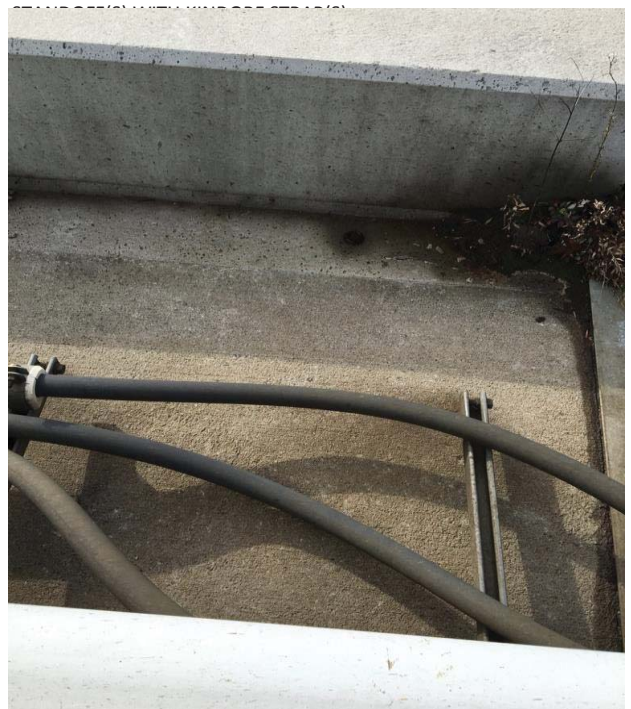
FIGURE 1 – CABLE LYING ON DECK AND MISSING FIBERGLASS STANDOFF WITH KINDORF STRAP





FIGURE 3 – WALKING PAVERS ON CLEARANCE ZONE COLLAPSED

FIGURE 2 – CABLES LYING ON DECK AND MISSING FIBERGLASS



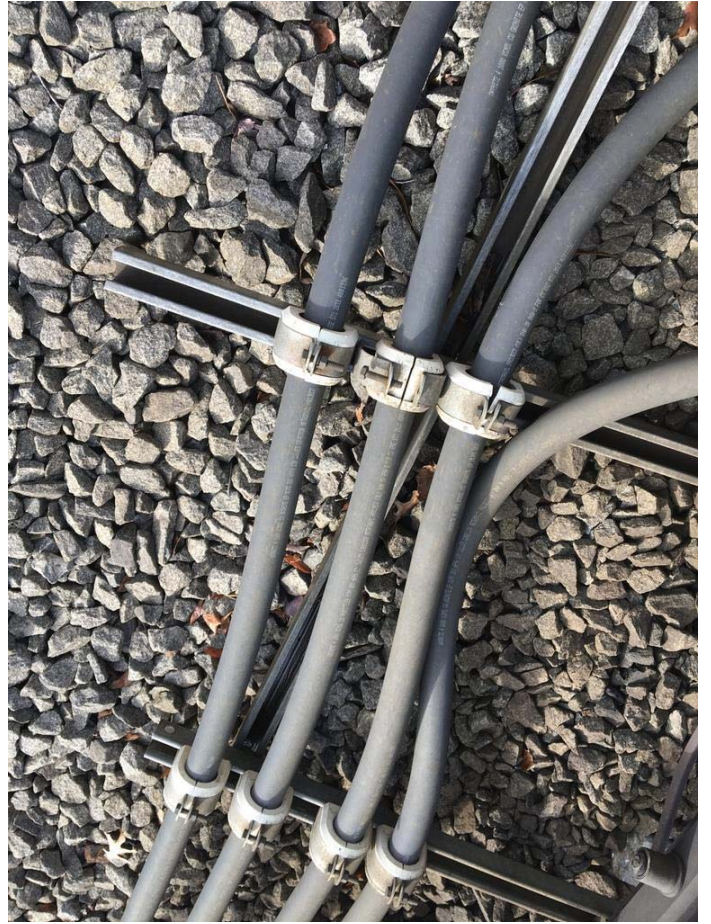


FIGURE 4 – CABLES LYING ON DECK AND MISSING FIBERGLASS STANDOFF(S)
WITH KINDORF STRAP(S); LOOSE NUT/BOLT ASSEMBLY ON KINDORF STRAP





FIGURE 5 – CABLES LYING ON DECK AND MISSING FIBERGLASS STANDOFF(S) WITH KINDORF STRAP(S); LOOSE NUT/BOLT ASSEMBLY ON KINDORF STRAP





FIGURE 6 – CABLES LYING ON DECK AND MISSING FIBERGLASS STANDOFF(S) WITH KINDORF STRAP(S); LOOSE NUT/BOLT ASSEMBLY ON KINDORF STRAP



FIGURE 7 – CABLES LYING ON DECK AND MISSING FIBERGLASS STANDOFF(S)
WITH KINDORF STRAP(S); METAL KINDORF LOOSE AND VERY CLOSE TO 3RD RAIL



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161208-WMATA-WP-1		
	2016	12	07				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	TRST	Sub- Department	Maintenance
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Red line						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-RWP-OBS					
Inspection Units	1					
Inspection Subunits	4					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Roadway Worker Protection					Activity Code	TRK	RWP	OBS
Job Briefing Employee Name/Title	SAFE UNIT 202			Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	1000 1030	Outside Shift	No
Related Reports	Related CAPS / Findings										
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP			Standard			Other / Title		Checklist Reference	
	RWPM										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X		X						X		
Line(s)	Red Line	Track Number	2		Chain Marker and/or Station(s)	From			To		
			A-B 45+00 (Metro Center)			A-B 00+00 (Gallery Place)					
Vehicles	Head Car Number		Number of Cars		Equipment	N/A					
	N/A		N/A								
Description	The FWSO team scheduled a walking inspection of the Red line between Metro Center and Gallery Place. This was a follow-up to the December 7, 2016 inspection							Number of Defects		0	
								Recommended Finding?		No	

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature	 <small>Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FAHQ, cn=WINSLOW L. POWELL Date: 2016.12.19 14:45:06 -05'00'</small>	Date
Inspector in Charge - Name Winslow Powell		Inspection Team Corwyn N. Foster, Alexander Nepa, Kevin McDonald



Inspection Form

FOIA Exemption: All (b)(6) -
Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161208-WMATA-WP-2		
	2016	12	08				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	POWR	Sub- Department	PMI
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	D11 – Cheverly – AC Electrical Room						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TP-RM-OBS					
Inspection Units	1					
Inspection Subunits	2					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	D11 – Cheverly - 480V AC Electrical Room Cutover to New Installed Switchgear, MC Dean (Electrical Contractor) and Square D (Original Equipment Manufacturer) performed Site Acceptance Test (SAT) for New 480V AC SWGR				Activity Code	TP	RM	OBS	
Job Briefing Employee Name/Title	WMATA POWR SMNT Head Supervisor		Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	0100-0430	Outside Shift	Yes	
Related Reports	Related CAPS / Findings										
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP			Standard		Other / Title		Checklist Reference		
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
			X								
Line(s)	D Line	Track Number	N/A	Chain Marker and/or Station(s)			From	To			
							D11 – Cheverly – AC Room	D11 – Cheverly – AC Room			
Vehicles	Head Car Number		Number of Cars		Equipment	480V Square D (OEM) Switchgear					
	N/A		N/A								
Description	Job safety briefing outlining any safety hazards and work to be performed was done by the head supervisor of WMATA Power Branch (POWR) Systems Maintenance						Number of Defects		0		
							Recommended Finding?		No		

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature	WINSLOW L. POWELL	<small>Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2017.01.09 11:20:52 -0500</small>	Date
Inspector in Charge – Name	Winslow Powell	Inspection Team	Tino Sahoo



	<p>(SMNT) who was in attendance for the Site Acceptance Test (SAT) for 480V AC Electrical Room Cutover to New Installed Switchgear by MC Dean (Electrical Installation Contractor) and Square D (OEM-Original Equipment Manufacturer). No exceptions were taken with the briefing, which was thorough.</p> <p>The new Square D 480V AC SWGR has a Programmable Logic Controller (PLC) with a Human Machine Interface (HMI), or known touch screen display. (See Figure 1.) It also contains the Multi-Purpose Relay (MPR) for better protective capabilities of the electrical system. These new features of the gear provide a local automated way to trip (de-energize) either of the primary main breakers or tie breaker via a touch of the screen. In addition, if a source (utility) feeder that feeds either of the two switchboards goes down, the new gear would automatically close the tie-breaker to transfer the electrical loads to the switchboard that is energized by the other utility feeder.</p> <p>There was a hardcopy of the SAT present during the inspection that MC Dean and Square D conducted. Numerous iterations energizing/de-energizing the main-tie-main breaker scheme (See Figure 1 and 2) were done for different real-life scenarios. After each successful iteration, it was marked as complete on the SAT. Remote monitoring was checked with the ROCC to ensure ROCC's status of breakers (open/close) were indicating properly. There was one small issue with the remote monitoring, and MC Dean was going to return the following day to fix the issue with the Data Transmission System (DTS) box. All other tests passed.</p> <p>Square D personnel performed a "racking out and racking in" mockup of a breaker cubicle (see Figure 3) to demonstrate to the electricians the proper method for doing maintenance. This gear is new to most of the electricians, but they are provided a classroom course by the Square D.</p> <p>General Observations:</p> <ul style="list-style-type: none"> • FWSO recommends more practical in-person experience in addition to the classroom training for maintenance electricians with any newly installed electrical equipment in order to gain familiarity and know-how of the full features of the equipment. • During the night shift, ROCC may be over-burdened or understaffed to handle both the trackside movement of vehicles and work with the field electricians on remote monitoring issues or tests at the same time. 	<p>Remedial Action Required?</p> <p>Recommended Reinspection?</p>	<p>No</p> <p>Yes</p>
<p>Remedial Action</p>	<p>N/A</p>		



FIGURE 1 – PLC WITH HMI TOUCH SCREEN SHOWING MAIN-TIE-MAIN BREAKER SCHEME AND STATUS OF EACH BREAKER



FIGURE 2 – TIE BREAKER IN MAIN-TIE-MAIN BREAKER SCHEME (NORMALLY OPEN)



FIGURE 3 – SECONDARY MAIN BREAKER (NORMALLY CLOSED)



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161212-WMATA-WP-1		
	2016	12	12				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	ROCC	Sub- Department	N/A
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Carmen Turner Facility 3500 Pennsy Drive, Landover, MD 20785						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	OPS-RC-OBS					
Inspection Units	1					
Inspection Subunits	0					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Rules Compliance				Activity Code	OPS	RC	OBS	
Job Briefing Employee Name/Title	N/A		Accompanied Inspector?	N/A	Out Brief Conducted	No	Time	1100-1500	Outside Shift	No	
Related Reports	N/A		Related CAPS / Findings	N/A							
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP		Standard		Other / Title		Checklist Reference			
	MetroRail Safety Rules and Procedures Handbook	Section 1- General Rules (Radio Usage and Operation)		N/A		N/A		N/A			
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
				X							
Line(s)	N/A	Track Number	N/A	Chain Marker and/or Station(s)		From		To			
						N/A		N/A			
Vehicles	Head Car Number		Number of Cars		Equipment		N/A				
	N/A		N/A								
Description	An FWSO inspector conducted an observation of the rail traffic controllers (RTC) at the Rail Operations Control Center (ROCC) in the OPS 2 console. The inspector observed the RTC radio broadcasts for compliance with general radio usage and operation rules. The RTCs were found to be in compliance with radio usage rules, and the following observations were made:						Number of Defects		0		
							Recommended Finding?		No		
							Remedial Action Required?		No		
							Recommended Reinspection?		No		

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature	 <small>Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.21 10:36:58 -05'00'</small>	Date
Inspector in Charge - Name Winslow Powell		Inspection Team Chris Difatta



	<ul style="list-style-type: none">• During radio communications, the RTC ensured each unit or operator repeated back each instruction, clearance, or operating instruction with 100 percent word-for-word read back, as required.• The RTC closed or acknowledged all radio requests as, "That is a good copy," and turned over or closed each transmission with "over" and "out" until the communication was concluded.• Per policy, RTCs must conduct hourly radio broadcasts that include a full read out of ROW protections (if applicable), time confirmation, rule of the day, cardinal rule 1.79, and all operational anomalies in place. RTCs must also broadcast RWP personnel protection announcements every twenty minutes. The hourly radio broadcasts were observed every hour, as required, and the RWP personnel protection announcements were observed every twenty minutes.• RTCs also maintained a written log of all personnel on ROW and recorded all call on/call off times.• FWSO Inspector did not observe any RTC use personal cell phones or electronic devices during their shift.		
Remedial Action	N/A		



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161213-WMATA-WP-1		
	2016	12	13				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	ROCC	Sub- Department	N/A
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Carmen Turner Facility 3500 Pennsy Drive, Landover, MD 20785						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	OPS-RC-OBS					
Inspection Units	1					
Inspection Subunits	0					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Rules Compliance					Activity Code	OPS	RC	OBS
Job Briefing Employee Name/Title	N/A		Accompanied Inspector?	N/A	Out Brief Conducted	No	Time	0900-1400	Outside Shift	No	
Related Reports	N/A		Related CAPS / Findings		N/A						
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP		Standard		Other / Title		Checklist Reference			
	MetroRail Safety Rules and Procedures Handbook		N/A		N/A		N/A		N/A		
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
				X							
Line(s)	N/A	Track Number	N/A	Chain Marker and/or Station(s)		From		To			
						N/A		N/A			
Vehicles	Head Car Number		Number of Cars		Equipment		N/A				
	N/A		N/A								
Description	An FWSO Inspector conducted an observation of the rail traffic controllers (RTC) at the Rail Operations Control Center (ROCC) in the OPS 3 console. The following observations were made: <ul style="list-style-type: none"> The FWSO inspector conducted a physical inspection of the Activity Log Book located at the OPS console, and no exceptions were taken. 							Number of Defects		0	
								Recommended Finding?		No	
								Remedial Action Required?		No	
								Recommended Reinspection?		No	

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature WINSLOW L. POWELL	Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.21 10:41:46 -05'00'	Date
Inspector in Charge - Name Winslow Powell	Inspection Team Chris Difatta	



	<ul style="list-style-type: none">• The FWSO inspector also observed a shift transfer. The Assistant Superintendent was present during the transfer, and the transfer included a detailed explanation of worker activities on the right of way and trains in the territory.• The FWSO inspector observed compliant radio communication with regard to the "over and out" requirements and positive word-for-word read back.		
Remedial Action	N/A		



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date: 2016-12-17, Report Number: 20161217-WMATA-AD-1, Rail Agency Name: Washington Metropolitan Area Transit Authority, Rail Agency Department: ROCC, Sub-Department: N/A, Inspection Location: Carmen Turner Facility, 3500 Pennsy Drive, Hyattsville, MD 20785

Inspection Summary

Table with 7 columns (Inspection Activity #, 1-6) and 7 rows (Activity Code, Inspection Units, Inspection Subunits, Defects (Number), Recommended Finding, Remedial Action Required, Recommended Reinspection)

Activity Summaries

Activity Summaries table with columns for Inspection Activity #, Inspection Subject, Activity Code, Job Briefing Employee Name/Title, Related Reports, Related Rules, SOPs, Standards, or Other, Inspection Location, Line(s), and Vehicles.

1 The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action.

Inspector in Charge - Signature: AMBUR I DALEY, Digitally signed by AMBUR I DALEY, Date: 2017.01.05 13:52:03 -05'00', Inspector in Charge - Name: Ambur Daley, Inspection Team: Tamara Powell



<p>Description</p>	<p>The FWSO inspector performed an observation and compliance check that focused mainly on ROCC required actions and radio usage and operation (General Rules 1.69 – 1.88 and Permanent Order T-16-10). The observation and compliance check was based on findings from the Safety Management Inspection (SMI) report, as well as rules from the Metrorail Safety Rules & Procedures Handbook, and from procedures and rules from the Roadway Protection Manual (2014) and Level IV RWP Training Course.</p> <p>The FWSO inspector called the Assistant Superintendent of the Rail Operations Control Center (ROCC) to notify him that she would be conducting an observation of the rail traffic controllers (RTC) on the overnight shift at the OPS 1 console, which controls and oversees operations on the Red Line.</p> <p>General observations:</p> <ul style="list-style-type: none"> • The FWSO inspector observed the radio transmissions and performance of two RTCs. <ul style="list-style-type: none"> ○ RTC #1, the Button Controller, has been employed at WMATA for 11 years, with 3 years in the ROCC. She has not taken the RTC Bridge Training yet. RTC #1 also performs “utility” duties (substitute Assistant Superintendent) as needed. ○ RTC #2, the Radio Controller, was an external hire with air traffic controller experience and three years at WMATA in the ROCC. RTC #2 has had Bridge Training. ○ RTC #1 provided instruction and oversight to RTC #2, who worked the shift as a refresher. RTC #1 ensured each transmission was correct and provided advice and support all night to RTC #2, which included proper call on requirements for power de-energization, testing, and verification. • During the overnight shift, each RTC has distinct responsibilities: <ul style="list-style-type: none"> ○ The Button Controller position is responsible for power (de-energization and energization), fans testing, switches/routing trains and vehicle movement, and all line heaters. ○ The Radio Controller position is responsible for communication for all units and equipment/trains on the line, data input in GOTRS (General Orders & Track Rights System), and administrative duties as required (making copies of reports and power sheets, etc.). • The Assistant Superintendent was active and mobile the entire night, observing operations at all three OPS stations, checking the status of work crews, and asking if support or assistance was needed. • During the shift, a work crew required the ROCC to take down 3rd rail power beyond the granted limits, as the 3rd rail power was still testing live in the field. The Assistant Superintendents for the ROCC and MOC assisted the RTCs and offered support until a resolution was agreed upon. Everything was documented in GOTRS. <p>Observations related to SMI report findings:</p> <ul style="list-style-type: none"> • <i>R-1-6-A: “WMATA must establish and enforce a proper protocol for language and terminology that is used over the radio – to include 100 percent word-for-word read-back for safety-related instructions and unusual train movements.”</i> <ul style="list-style-type: none"> ○ The RTCs ensured all radio requests for permission to access the Right-of-Way (ROW) were received properly through read-backs. Power and track personnel each performed word-for-word confirmation of walking rights on the ROW. The RTC closed out each radio check transmission by acknowledging, “That is a good copy,” over the radio. For each communication loop, RTC #2 closed out each transmission with “over” until she closed the loop with “Central out.” ○ When unsure of the transmission over the air, RTC #2 requested complete repeat backs of the entire request before approving or rejecting the request. ○ As there were several work crews attempting to access the ROW, 	<p>Number of Defects</p>	0
		<p>Recommended Finding?</p>	No
		<p>Remedial Action Required?</p>	No
		<p>Recommended Reinspection?</p>	No



	<p>RTC #2 asked units or equipment operators to stand by and maintained notes for each order that was being called in.</p> <p>Observations related to the Roadway Worker Protection (RWP) Manual and Level IV WMATA RWP training:</p> <ul style="list-style-type: none"> • The FWSO inspector observed RTC #2 follow procedures as required by the Roadway Worker Protection (RWP) Manual and Level IV RWP Training. • When calling on, each worker provided his/her ID number and exact location by chain marker and identified the level of protection he/she would be under for the evening. • Workers that were installing shunts were given permission, and then RTC #2 confirmed that the shunts were visible via circuits that were down. • For each power de-energization request, the workers provided the exact chain marker for the request. RTC #2 then requested RTC #1 to take down power in that location, informed the workers that the power had been taken down, and instructed the workers to "hot stick" the location to ensure the power was testing dead. • Upon verification of shunts and power testing dead in the field, the workers were given permission to proceed with their work and clearing time in the morning. • In the morning, the same process occurred in reverse as part of the power restoration protocol. RTC #2 requested RTC #1 to energize the section and followed the verification process that requires 2 ROCC personnel to verify breakers before they are restored. • All times for ROW entry, power de-energization and energization, and clearing the ROW were recorded in GOTRS. • No exceptions were taken to the observations. 		
Remedial Action	N/A		



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161219-WMATA-WP-1		
	2016	12	19				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	RTRA	Sub- Department	N/A
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Green line between Greenbelt and Shaw-Howard U						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	RTRA-RI-OBS					
Inspection Units	1					
Inspection Subunits	N/A					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Rail Compliance Observation				Activity Code		RTRA	RI	OBS
Job Briefing Employee Name/Title	N/A		Accompanied Inspector?	N/A	Out Brief Conducted	No	Time	0700-1100	Outside Shift	No	
Related Reports	N/A		Related CAPS / Findings	N/A							
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP	Standard	Other / Title		Checklist Reference					
	MetroRail Safety Rules and Procedures Handbook	MSRPH General Rules 1.46-1.52 1.69-1.84 MSRPH Operating Rules 3.87 3.119, 3.120, 3.121,3.121.1, 3.79.1, 3.141 SOP# 12, 15, 16, 35, 45, 50									
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	x		x								
Line(s)	Green	Track Number	N/A	Chain Marker and/or Station(s)	From			To			
					Greenbelt			Shaw-Howard U			

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature WINSLOW L. POWELL	Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.27 12:53:14 -05'00'	Date
Inspector in Charge - Name Winslow Powell	Inspection Team Chris Difatta	



Vehicles	Head Car Number N/A	Number of Cars N/A	Equipment	N/A	
<p>Description</p>	<p>An FWSO Inspector conducted observations on the Green line. During the inspection, nine trains were observed in total.</p>			<p>Number of Defects</p>	<p>0</p>
	<p>At the Greenbelt Station, the FWSO Inspector positioned himself at the 8 car berthing mark on the station platform to observe and verify the following:</p>			<p>Recommended Finding?</p>	<p>No</p>
	<ul style="list-style-type: none"> • <u>Train Handling:</u> <ul style="list-style-type: none"> ○ Operated to 8 car station berthing marker at the end of the platform. ○ Head out of the window when stopping an 8 car consist. ○ Application of good train handling with smooth station stops and smooth and even acceleration and deceleration. • <u>Stations and Doors:</u> <ul style="list-style-type: none"> ○ Verified platform side of the train by sticking his/her head out of the cab window. ○ Looked at doors on platform side of train to verify any activity in front of the doors for five (5) seconds before opening the doors. ○ Opened the doors on the correct platform side, and made station announcements. ○ Observed train loading with head outside cab window to ensure that customers are not hit or trapped within doors. ○ Closed the window and looked in the direction of travel before moving the train forward. <p>No exceptions were taken during observations.</p> <p>The FWSO Inspector observed train operations from Greenbelt Station to Shaw-Howard U to verify the following:</p> <ul style="list-style-type: none"> • <u>Announcements:</u> <ul style="list-style-type: none"> ○ Made proper announcements when departing initial terminal. ○ Made proper announcements when berthed at the station. ○ Made announcement when train stopped due to another train crossing over. ○ Made proper announcements when train would be arriving at terminal. <p>No exceptions were taken during this observation.</p>			<p>Remedial Action Required?</p>	<p>No</p>
				<p>Recommended Reinspection?</p>	<p>No</p>
<p>Remedial Action</p>	<p>N/A</p>				



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161220-WMATA-WP-1		
	2016	12	20				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	RTRA	Sub- Department	N/A
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Red line between Shady Grove and Friendship Heights						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	RTRA-RI-OBS					
Inspection Units	1					
Inspection Subunits	N/A					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Rail Compliance Observations				Activity Code		RTRA	RI	OBS
Job Briefing Employee Name/Title	[REDACTED]	Accompanied Inspector?	Yes	Out Brief Conducted	Yes	Time	0800-1300	Outside Shift	No		
Related Reports	N/A	Related CAPS / Findings	N/A								
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP	Standard		Other / Title		Checklist Reference				
	MetroRail Safety Rules and Procedures Handbook Permanent Order No. T-16-07	MSRPH General Rules 1.46-1.52 1.69-1.84 MSRPH Operating Rules 3.87 3.119, 3.120, 3.121,3.121.1, 3.79.1, 3.141 SOP# 12, 15, 16, 35, 45, 50	N/A		N/A		N/A				
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	x		x								x
Line(s)	Red	Track Number	N/A	Chain Marker and/or Station(s)	From			To			
					Shady Grove			Friendship Heights			

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature WINSLOW L. POWELL	Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.27 12:54:34 -05'00'	Date
Inspector in Charge - Name Winslow Powell	Inspection Team Chris Difatta	



Vehicles	Head Car Number N/A	Number of Cars N/A	Equipment	N/A								
<p>Description</p> <p>An FWSO Inspector conducted riding and station inspections on the Red line between Shady Grove and Friendship Heights with a Rail Operations Supervisor.</p> <p><u>Train Operation Observations:</u></p> <p>During the inspection, 13 trains were observed in total. The FWSO Inspector observed train operators to ensure compliance with the following rules:</p> <ul style="list-style-type: none"> • Electronic Device Policy (MSRPH General Rules 1.46-1.52) • Train Horn Communications (MSRPH Operating Rules 3.87, 3.168) • Proper Radio Communication (MSRPH General Rules 1.69-1.84) • Train Operations Through Work Zones and Passing Roadway Workers (Permanent Order No. T-16-07, Rev 1) • FWSO Inspector observed two trains pass roadway workers with no exceptions. • Train Handling (MSRPH Operating Rules 3.119, 3.120, 3.121; MSRPH SOP's #12, 15, 16, 35, 45 and 50) • Stations and Doors (MSRPH SOP's #8, 40 and 43) <p>All operators were in compliance with the rules, and no exceptions were taken.</p> <p><u>Station Manager Observations:</u></p> <ul style="list-style-type: none"> • Station Manager observations were conducted at the following stations: <ul style="list-style-type: none"> ○ Shady Grove ○ Grosvenor-Strathmore ○ Medical Center ○ Friendship Heights • The following inspections were completed on each Station Manager: <ul style="list-style-type: none"> ○ Uniform Appearance ○ Carries Station Radio ○ Kiosk Condition ○ Station Logs ○ Engage and Welcome Customers <p>All Station Managers were in compliance, and no exceptions were taken.</p> <p>The FWSO Inspector and Rail Operations Supervisor also conducted Emergency Intercom checks at Friendship Heights Station. All Intercoms were working as intended.</p>				<table border="1"> <tr> <td data-bbox="1052 296 1365 331">Number of Defects</td> <td data-bbox="1365 296 1539 331">0</td> </tr> <tr> <td data-bbox="1052 331 1365 367">Recommended Finding?</td> <td data-bbox="1365 331 1539 367">No</td> </tr> <tr> <td data-bbox="1052 367 1365 403">Remedial Action Required?</td> <td data-bbox="1365 367 1539 403">No</td> </tr> <tr> <td data-bbox="1052 877 1365 913">Recommended Reinspection?</td> <td data-bbox="1365 877 1539 913">No</td> </tr> </table>	Number of Defects	0	Recommended Finding?	No	Remedial Action Required?	No	Recommended Reinspection?	No
	Number of Defects	0										
	Recommended Finding?	No										
	Remedial Action Required?	No										
Recommended Reinspection?	No											
Remedial Action	N/A											



Inspection Form

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161220-WMATA-WP-2		
	2016	12	20				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	TRST	Sub- Department	Maintenance
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	Andy Off Patrick Lavin Mike Davis		aboff@wmata.com pjlavin@wmata.com msdavis@wmata.com				
Inspection Location	Inspection Records Review, Brentwood Yard						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRST-TRK-RR					
Inspection Units	1					
Inspection Subunits	44					
Defects (Number)	2					
Recommended Finding	No					
Remedial Action Required ¹	Yes					
Recommended Reinspection	Yes					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Inspection Records Review				Activity Code	TRST	TRK	RR	
Job Briefing Employee Name/Title	N/A		Accompanied Inspector?	N/A	Out Brief Conducted	N/A	Time	Outside Shift			
Related Reports			Related CAPS / Findings								
Related Rules, SOPs, Standards, or Other	Ref		Rule or SOP		Standard		Other / Title		Checklist Reference		
	TRST-1000		TRST 2.1.2 & 2.10								
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
						X					X
Line(s)		Track Number		Chain Marker and/or Station(s)		From		To			
Vehicles	Head Car Number		Number of Cars		Equipment						
Description	FWSO made a request to WMATA, TRST, and SAFE to obtain copies of the October monthly yard inspection reports for Brentwood Yard. Forty-four (44) records were provided for review. In reviewing these monthly reports, the following two defects were identified:							Number of Defects		2	
								Recommended Finding?		0	
								Remedial Action Required?		Yes	
								Recommended Reinspection?		Yes	

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature WINSLOW L. POWELL		Digitally signed by WINSLOW L. POWELL DN: cn=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.30 11:42:10 -05'00'	Date
Inspector in Charge - Name Winslow Powell	Inspection Team Alexander Nepa		



	<ol style="list-style-type: none">1. TRST 1000, 2.1.2. & 2.5.3. WMATA is required to perform monthly yard switch inspections that include all switches within the yard. However, numerous switches were not accounted for in the monthly inspection FWSO reviewed—specifically, switches 17A, 17B, 25, 27A, 27B, 59B, 65, 65B, 67, 75, and 81.2. TRST 1000, 2.10.2. The report conducted on October 7, 2017 for switch number 105 was not dated.		
Remedial Action	<ol style="list-style-type: none">1. WMATA should complete and record monthly inspections of all switches in the Brentwood Yard as required.		



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161221-WMATA-WP-1		
	2016	12	21				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	TRST	Sub- Department	TKIN
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Georgia Ave						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-JSB-OBS	TRK-WI-PI				
Inspection Units	1	2				
Inspection Subunits	0	1				
Defects (Number)	0	1				
Recommended Finding	No	No				
Remedial Action Required ¹	No	Yes				
Recommended Reinspection	No	Yes				

Activity Summaries

Inspection Activity #	1	Inspection Subject	Job Safety Briefing					Activity Code	TRK	JSB	OBS
Job Briefing Employee Name/Title	TRST 679		Accompanied Inspector?	Yes	Out Brief Conducted	No	Time	1000-1300	Outside Shift	No	
Related Reports	N/A		Related CAPS / Findings		N/A						
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP		Standard			Other / Title		Checklist Reference		
	RWPM						Permanent Order T-16-07 Rev 1				
	MSRPH										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X								X		
Line(s)	E	Track Number	2	Chain Marker and/or Station(s)			From	To			
							CM 179+00 (E05)	CM 200+00			
Vehicles	Head Car Number		Number of Cars		Equipment		N/A				
	N/A		N/A								
Description	TRST 679 provided a comprehensive job safety briefing to the work gang prior to						Number of Defects	0			

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature WINSLOW L. POWELL	Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.28 09:24:34 -05'00'	Date
Inspector in Charge - Name Winslow Powell	Inspection Team Chad Broski, Mike Vitale	



	accessing the right-of-way (ROW) at Georgia Ave (CM 179+00). The briefing included the work limits of the inspection, the protection that would be used (Train Approach Warning), hazards that would be encountered, and the required Personal Protective Equipment (PPE). TRST 679 also reviewed the Roadway Access Guide pertaining to our inspection limits. He then ensured that the FWSO members had the required PPE and the proper RWP training. Prior to requesting permission to access the ROW, TRST 679 required us to acknowledge understanding of the on-track safety procedures for this inspection. No exceptions were taken with the safety briefing.	Recommended Finding?	No
		Remedial Action Required?	No
		Recommended Reinspection?	No
Remedial Action	N/A		

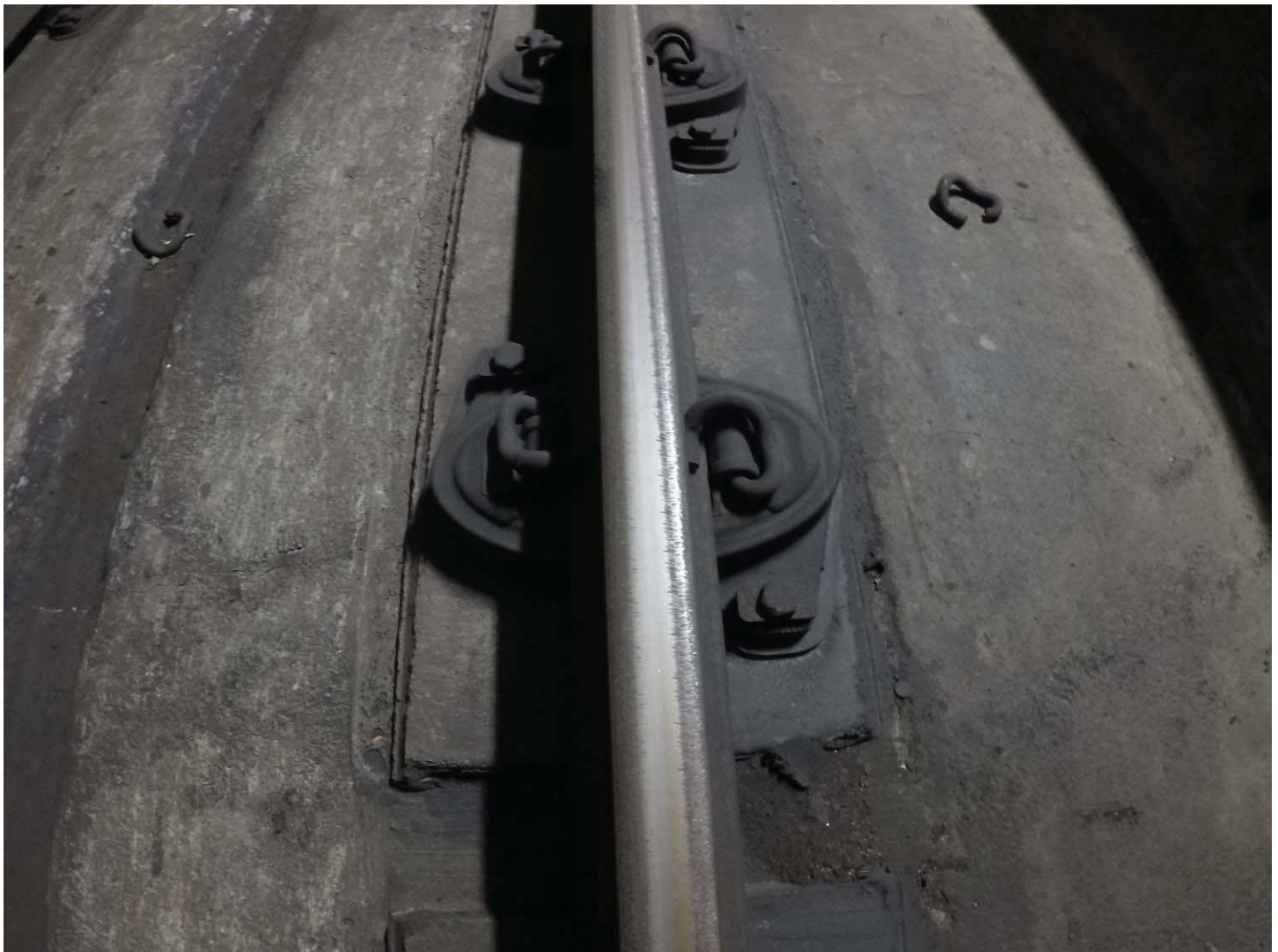
Inspection Activity #	2	Inspection Subject	Direct Fixation Fastener Inspection					Activity Code	TRK	WI	PI
Job Briefing Employee Name/Title	TRST 679		Accompanied Inspector?	Yes	Out Brief Conducted	No	Time	1000-1300	Outside Shift	No	
Related Reports	N/A		Related CAPS / Findings	N/A							
Related Rules, SOPs, Standards, or Other	Ref		Rule or SOP		Standard		Other / Title		Checklist Reference		
	RWPM						Permanent Order T-16-07 Rev 1				
	MSRPH										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X								X		
Line(s)	E	Track Number	1 & 2	Chain Marker and/or Station(s)	From			To			
					CM 179+00 (E05)			CM 200+00			
Vehicles	Head Car Number		Number of Cars		Equipment	N/A					
	N/A		N/A								

Description	<p>FWSO performed a track inspection from Georgia Ave (Station E05 - CM 179+00) to CM 200+00 on both main tracks for the E Line to follow-up on vibration complaints from the public that live above this tunnel section. In this area, WMATA has installed Cologne Egg Fasteners, designed to reduce the magnitude of vibrations transferred to the tunnel structure and the environment above.</p> <ul style="list-style-type: none"> FWSO observed numerous Pandrol e-Clips broken from apparent stress risers from the shoulders on Cologne Egg style direct fixation fasteners. The e-Clips are held in place by the shoulders while it bears against the base of the rail. The broken e-Clips were located between chain markers 185+00 and 198+00 on tracks 1 and 2. Most of the broken e-Clips had fresh breaks—most likely occurring on the same day of the inspection—which explains why the clips had not been replaced yet. Other than the e-Clips, most of the Eggs' direct fixation components (i.e. elastomer, anchor bolts, grout pads, etc.) were in relatively good condition and not failing. FWSO observed that track 2 had the preponderance of missing e-Clips. A WMATA representative placed a medium speed restriction (40 mph) on track 2. While many broken clips were found, no track conditions were found. The WMATA representative put the speed restriction in place as a preventive measure. Maintenance was scheduled for that evening. FWSO observed that track 1 had recent maintenance completed to replace numerous broken e-Clips. However, even some of the recently replaced e-Clips had already snapped. FWSO observed that the F17 style direct fixation fasteners in the limits of our inspection did not have broken or missing clips. These fasteners do not have the same vibration dampening properties as the Cologne Egg fasteners. FWSO noted that the use of the 7000-series rail car trains—which weigh significantly more than the previous series rail cars—and the location adjacent to a station in which trains are applying additional force by 	Number of Defects	1
		Recommended Finding?	No
		Remedial Action Required?	Yes
		Recommended Reinspection?	Yes



	<p>braking or accelerating could be contributing factors. FWSO will continue to investigate this issue with WMATA track engineering.</p> <p>Additional observations:</p> <ul style="list-style-type: none">• There was a significant structural leak with continuous water flow dripping along the entire top of the tunnel at E1 CM 181+30.• Two trains failed to comply with Permanent Order T-16-07 Rev 1. These speed violations while passing roadway workers occurred with back-to-back trains at approximately 11:10 a.m. and 11:12 a.m. (EST) at E2 CM 192+00. Our WMATA escort notified ROCC.		
Remedial Action	1. WMATA must mitigate significant water leak at CM E1 181+30.		

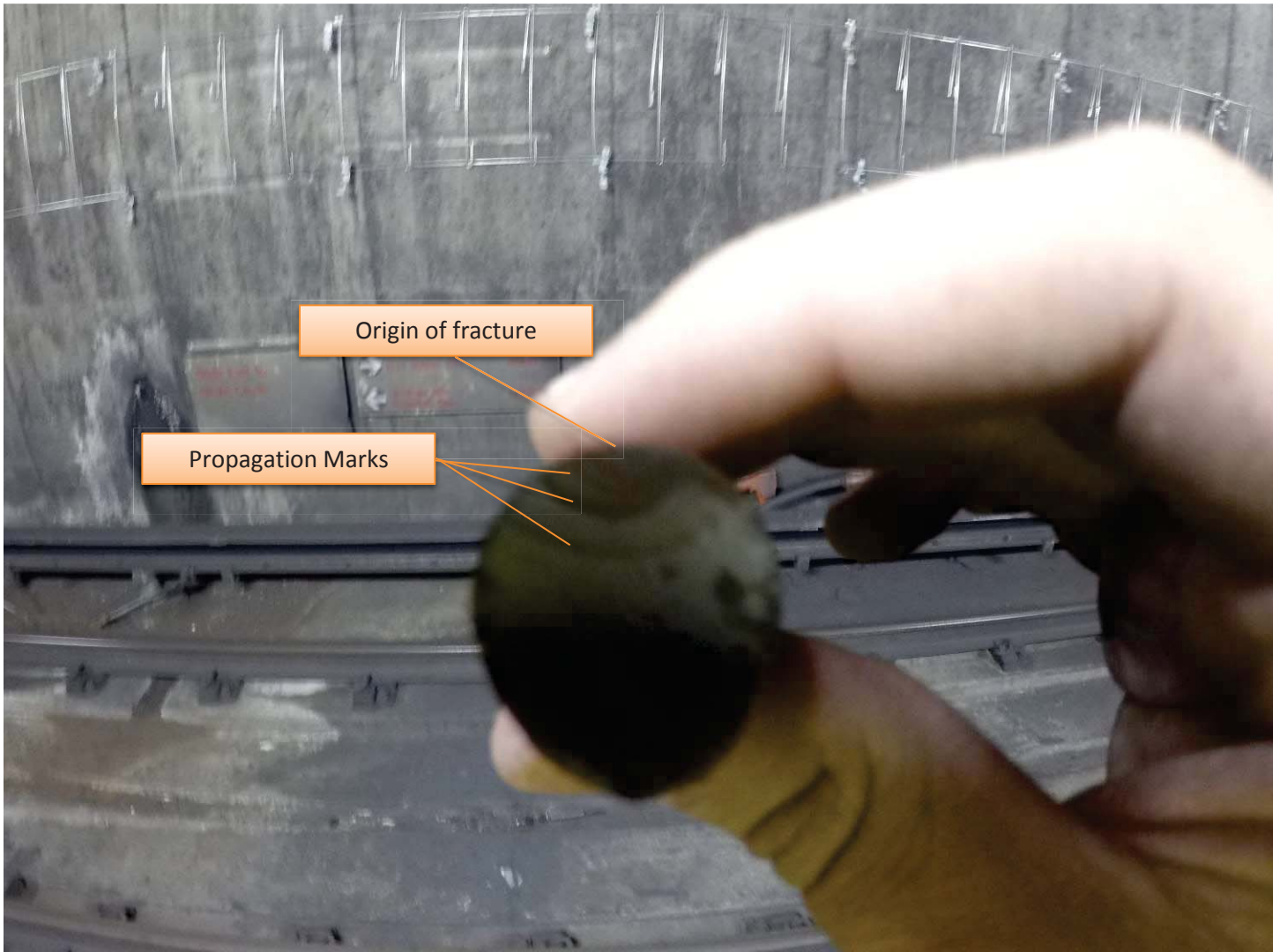
Photos



Cologne Egg fasteners with broken e-clips nearby



Cologne Egg Fastener with broken e-clip



Signs of material fatigue and crack propagation on e-clip



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161221-WMATA-WP-2		
	2016	12	21				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	TRST	Sub- Department	Maintenance
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Inspection Records Review: A line tracks 1 & 2 between Dupont Circle Station and Tenleytown-AU Station, Rockville Station and White Flint Station.						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRST-TRK-RR					
Inspection Units	1					
Inspection Subunits	6					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Inspection Records Review				Activity Code	TRST	TRK	RR	
Job Briefing Employee Name/Title	N/A		Accompanied Inspector?	N/A	Out Brief Conducted	N/A	Time	Outside Shift			
Related Reports	20161129-WMATA-CF-1		Related CAPS / Findings								
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP	Standard			Other / Title		Checklist Reference			
	TRST-1000	TRST 2.1.2 & 2.10									
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
						X					
Line(s)		Track Number		Chain Marker and/or Station(s)		From		To			
Vehicles	Head Car Number		Number of Cars		Equipment						
Description	FWSO requested and reviewed copies of inspection records from WMATA, TRST, and SAFE of the last four (4) inspections that WMATA performed on the A line, tracks 1 and 2, between Dupont Circle Station and Tenleytown-AU Station and Rockville Station and White Flint.						Number of Defects		0		
							Recommended Finding?		No		
							Remedial Action Required?		No		
							Recommended Reinspection?		No		

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature WINSLOW L. POWELL		Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.30 11:38:01 -05'00'	Date
Inspector in Charge - Name Winslow Powell	Inspection Team Alexander Nepa		



	<p>FWSO found the following issues with the WMATA inspection report dated December 2, 2016:</p> <ul style="list-style-type: none">• The required daily track inspector report was missing.• The report only noted one yellow level exception for heel block bolts. However, FWSO previously noted defective crossties and narrow gage conditions in the area (see FTA inspection report 20161129-WMATA-CF-1), and these conditions were not noted in the WMATA inspection report. <p>Additionally, while WMATA inspection records dated November 29, 2016 technically comply with WMATA TRST 1000 2.10 requirements, additional information could be added to provide a full picture of the inspection that took place.</p> <p>The FWSO team will schedule an inspection between Shady Grove Station and White Flint Station to verify WMATA's findings from this selection of reports.</p>		
Remedial Action	N/A		



Inspection Form

FOIA Exemption: All (b)(6) -

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information I

Inspection Date I	YYYY f	MM f	DD f	Report Number I	20161221-WMATA-WP-3		
	2016 f	12 f	21 f				
Rail Agency Name I	Washington Metropolitan Area Transit Authority f			Rail Agency I Department f	POWR f	Sub-Department f	CBL IN. f
Rail Agency Department I Contact Information I	Name f		Email f		Of ice Phone f		Mobile Phone f
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location I	J03-Franconia Springfield Track 2, Franconia Springfield Station to CM780+00 f						

Inspection Summary I

Inspection Activity # I	1 f	2 f	3 f	4 f	5 f	6 f
Activity Code I	TP-WI-OBS f	f	f	f	f	f
Inspection Units I	1 f	f	f	f	f	f
Inspection Subunits I	9 f	f	f	f	f	f
Defects (Number) I	0	f	f	f	f	f
Recommended Finding I	No f	f	f	f	f	f
Remedial Action Required ¹¹	No f	f	f	f	f	f
Recommended Reinspection I	No f	f	f	f	f	f

Activity Summaries I

Inspection Activity # I	1 f	Inspection Subject I	J03-Franconia Springfield TRK 2, Franconia f Springfield Station to CM780+00 Mainline Cable f nspection f				Activity Code f	TP f	Wiff	OBS f	
Job Briefing I Employee I Name/Title I	WMATA RWIC f WMATA Watchman f WMATA Documenter f		Accompanied I Inspector? f	Yes f	Out Brief I Conducted I	Yes f	Time f	1000- f 1400 f	Outside I Shift I	No f	
Related Reports I	f		Related CAPS / Findings f		f						
Related Rules, SOPs, I Standards, or Other I	Ref f	Rule or SOP f		Standard f		Other / Title f		Checklist Reference f			
	RWPM f		f		f		f		f		
Inspection Location I	Main f Track f	Yard f	Station f	OCC f	RTA f Facility f	FTA f Of ice f	Track Type I	At-grade f	Tunnel f	Elevated f	N/A f
	X f	f	f	f	f	f		X f	f	f	f
Line(s) I	J-Line f	Track I Number I	2 f	Chain Marker I and/or Station(s) I		From f		To f			
						J2 Franconia Springfield f		J2 CM780+00 f			
Vehicles I	Lead Car Number f		Number of Cars f		Equipment I		N/A f				
	N/A f		N/A f								
Description I	The Job Safety Briefing was comprehensive. The hot spots, hazards, f clearance areas, communication, and Roadway Access Guide were used as part of f the discussion. No exceptions were taken to the Job Safety Briefing. f						Number of Defects I		0 f		
							Recommended Finding? I		No f		
							Remedial Action Required? I		No f		

¹¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective. f

Inspector in Charge - Signature f WINSLOW L. POWELL	<small>Digitally signed by WINSLOW L. POWELL DN: cn=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2017.01.09 11:51:05 -05'00'</small>	Date f
Inspector in Charge - Name I Winslow Powell I	Inspection Team I Tino Sahoo I	



	<p>WMATA cable inspection crews each include three personnel (RWIC, Watchman, and documenter of issues in wayside power cable and/or connections), and on a typical day there are three different crews that are active. Each crew inspects a different portion of the mainline from 1000–1400 (non-rush hours). The pictures taken and issues noted were entered into a database in order to create Maximo work orders.</p> <p>Daily cable inspections are part of the holistic approach WMATA is instituting to prevent cable fires and arcing incidents. As outlined below, the following issues with the power cables were noted by the FWSO inspector and WMATA personnel during the course of the normal daily cable inspection process. FWSO will follow up to confirm the conclusion of the work once cable issues have been corrected.</p> <ul style="list-style-type: none"> • TRK 2 CM 858+00 – Cables laying on deck (ballast) (See Figure 1) • TRK 2 CM 848+00 – Cables laying on deck (ballast) and 3rd Rail cover board, broken and needs to be replaced (See Figure 2) • TRK 2 CM 838+00 – Cables laying on deck (ballast) (See Figure 3) • TRK 2 CM 827+00 – Cable from stub-up on the deck (ballast) (See Figure 4) • TRK 2 CM 826+00 – Stub-up conduit compromised on feeder cable to 3rd rail, broken orange boot that needs to be replaced, and 3rd rail cover board needs replacement (See Figure 5) • TRK 2 CM 825+00 – Broken orange boot, heat shrink needs replacement on stub-up transition from conduit to orange boot (See Figure 6) • TRK 2 CM 815+00 – Cables laying on deck (ballast), 3rd Rail cover board fallen off (See Figure 7) • TRK 2 CM 794+00 – Cables laying on deck, recommend ballast to be tamped, regulated, and spread evenly in area (See Figure 8) • TRK 2 CM 782+00 – OZ Bushing compromised on stub-up and needs replacement (See Figure 9) <p>General Observations:</p> <ul style="list-style-type: none"> • Cables lying on the deck (ballast) are prone to the vibration of the trains moving back and forth, which can cause premature degradation of the cables, especially in the outdoor areas where cables are lying on ballast. • Any and all preventive/corrective measures should be taken to prevent intrusion of water and moisture into stub-ups, boots, and cables. 	<p>Recommended Reinspection? I</p>	<p>No</p>
<p>Remedial Action I</p>	<p>N/A</p>		

f
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f

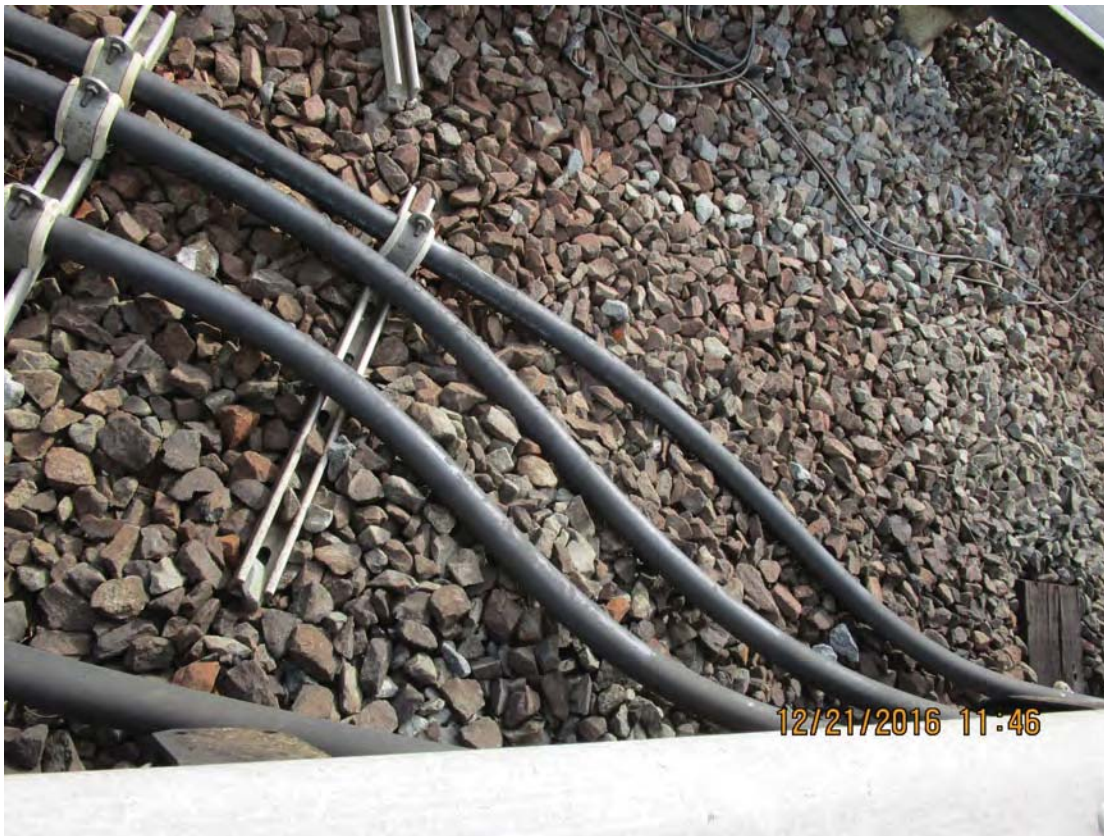
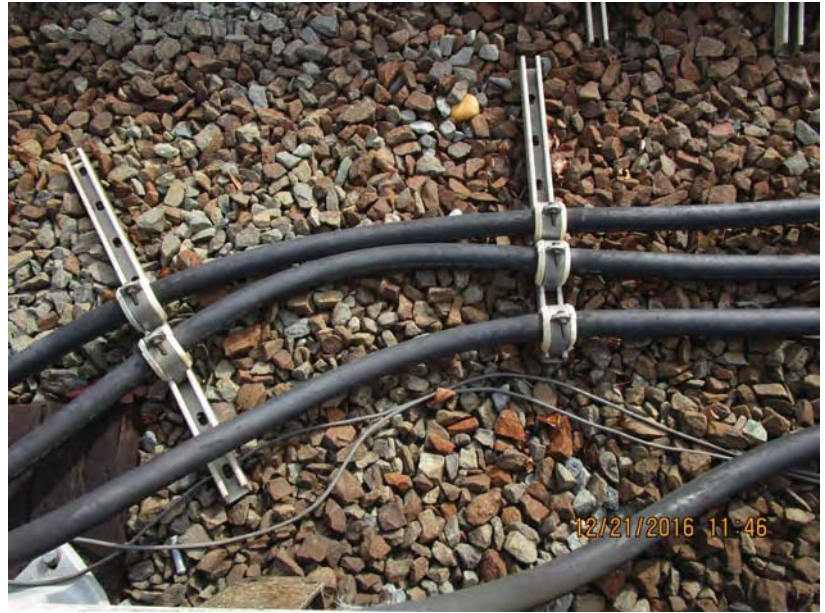


FIGURE 1 - CABLES LAYING ON DECK (BALLAST) f



FIGURE 2 - CABLES LAYfNG ON DECK (BALLAST) AND 3RD RAfL COVERBOARD BROKEN AND NEEDS f TO BE REPLACED f



f

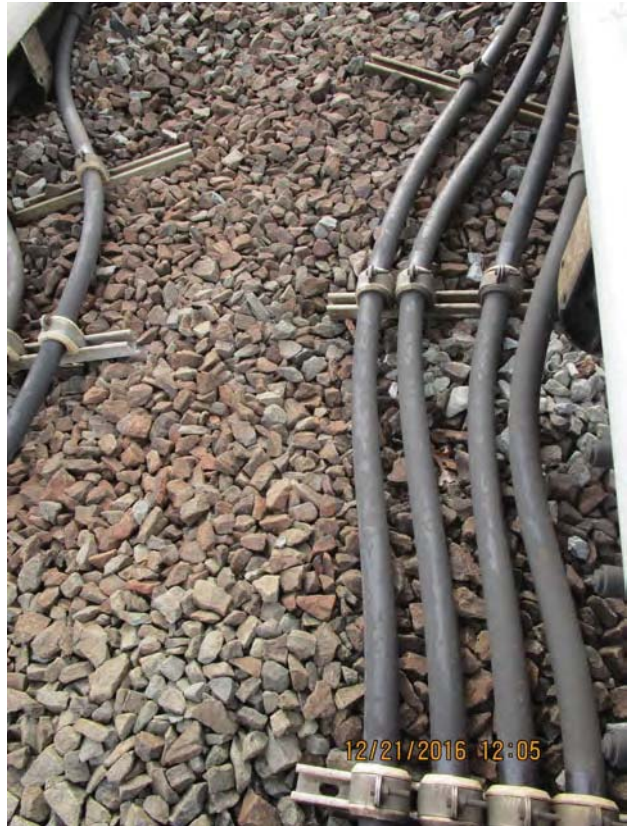


FIGURE 3 - CABLES LAYING ON DECK (BALLAST) f



f



FIGURE 4 - CABLE FROM STUB-UP ON Tf E DECK f

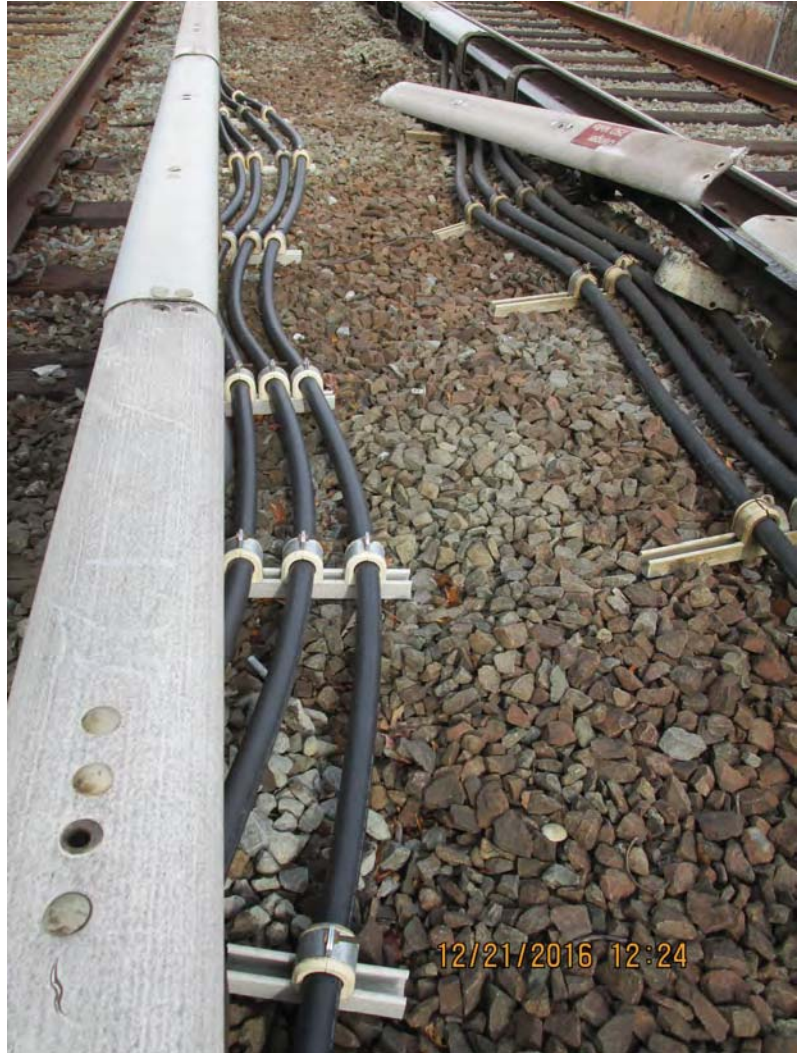


FIGURE 5 - STUB-UP CONDUIT COMPROMISED ON FEEDER CABLE TO 3RD RAfL, BROKEN ORANGE BOOT Tf AT NEEDS TO f
BE REPLACED, AND 3RD RAfL COVER BOARD NEEDS REPLACEMENT f

f



FIGURE 6 - BROKEN ORANGE BOOT, f EAT SF RfNK NEEDS REPLACEMENT ON STUB-UP TRANSITION FROM CONDUIT TO f ORANGE BOOT f



f
FIGURE 7 - CABLES LAYING ON DECK (BALLAST), 3RD RAFL COVERBOARD FALLEN OFF f

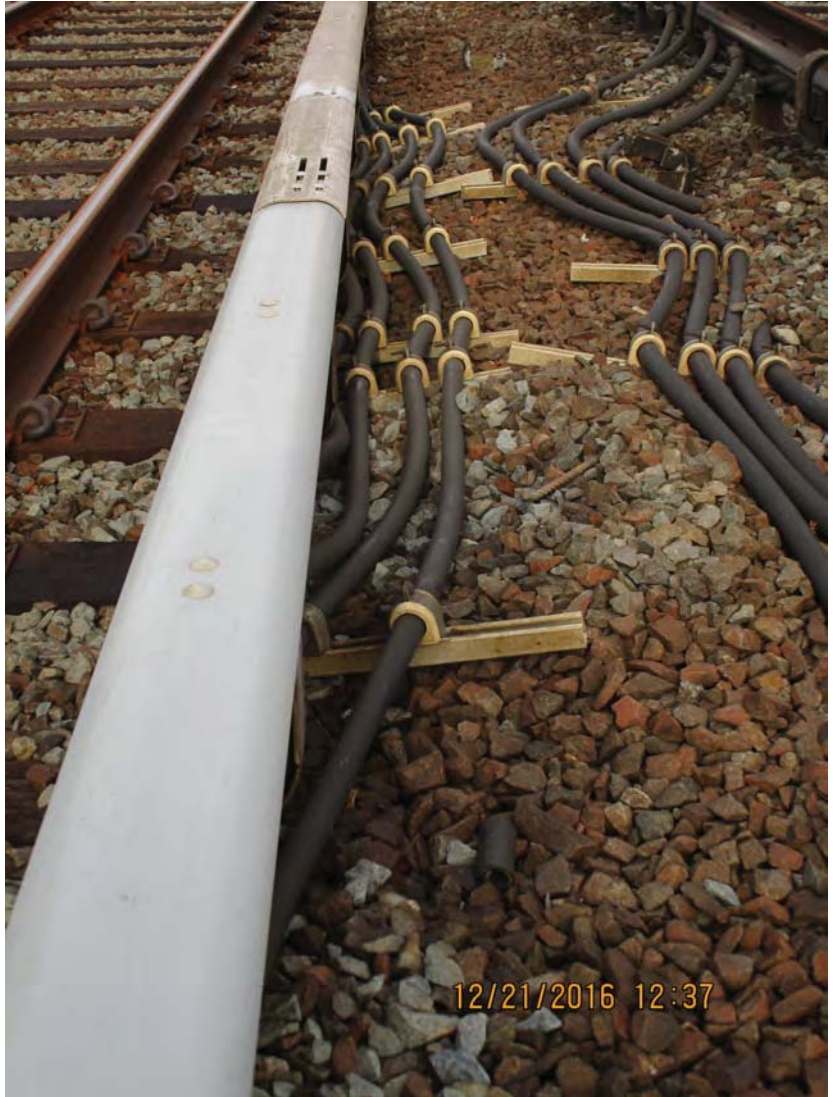


FIGURE 8 - CABLES LAYING ON DECK, RECOMMEND BALLAST TO TAMPED, f REGULATED, AND SPREAD EVENLY IN AREA f



FIGURE 9 - OZ BUSHING COMPROMISED ON STUB-UP AND NEEDS REPLACEMENT f



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161222-WMATA-AD-1		
	2016	12	22				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	ROCC	Sub- Department	N/A
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Carmen Turner Facility 3500 Pennsy Drive, Hyattsville, MD 20785						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	ROCC-RC-OBS					
Inspection Units	1					
Inspection Subunits	0					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Rules Compliance & Safety Management Inspection Required Actions Observation of Rail Traffic Controllers				Activity Code	ROCC	RC	OBS	
Job Briefing Employee Name/Title	N/A	Accompanied Inspector?	N/A	Out Brief Conducted	Yes	Time	1500 – 1730	Outside Shift	Yes		
Related Reports	Safety Management Inspection, Final Report, June 17, 2015		Related CAPS / Findings	Required Actions: R-1-6-a							
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP	Standard		Other / Title		Checklist Reference				
	Metro rail Safety Rules and Procedures Handbook	Section 1 – General Rules (Radio Usage and Operation): Rules 1.69 – 1.88	X		X		X				
	Permanent Order	NO. T-16-10									
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	Main Track	Yard	At-grade	Tunnel	Elevated	N/A
				X							X
Line(s)	N/A	Track Number	N/A	Chain Marker and/or Station(s)		From		To			
						N/A		N/A			
Vehicles	Head Car Number		Number of Cars		Equipment		N/A				
	N/A		N/A								
Description	The FWSO inspector performed an observation and compliance check that focused						Number of Defects	0			

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature	AMBUR I DALEY	Digitally signed by AMBUR I DALEY DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FMCSAHQ, cn=AMBUR I DALEY Date: 2017.01.05 13:45:03 -05'00'	Date
Inspector in Charge – Name	Ambur Daley	Inspection Team	Tamara Powell



	<p>mainly on ROCC required actions and radio usage and operation (General Rules 1.69 – 1.88 and Permanent Order T-16-10). The observation and compliance check was based on findings from the Safety Management Inspection (SMI) report, as well as rules from the Metrorail Safety Rules & Procedures Handbook. The following observations were made:</p> <ul style="list-style-type: none"> • The FWSO inspector conducted an observation of the rail traffic controllers (RTC) during an afternoon shift at the OPS 3 console, which controls and oversees operations on the Green, Yellow, and partial Blue Lines. • The FWSO inspector observed the radio transmissions and performance of two RTCs. <ul style="list-style-type: none"> ○ RTC #1, the Button Controller, has been employed at WMATA for 15 years, with 3 years in the ROCC. ○ RTC #2, the Radio Controller, has 10 years at WMATA, with one year in the ROCC. ○ Both RTCs have had Bridge refresher training. • Both RTCs worked well together, offering advice and making recommendations with regard to routing and decision making. • As the observation was conducted on the middle shift during the afternoon rush hour, there were no workers on the right-of-way. <p>Observations related to SMI report findings:</p> <ul style="list-style-type: none"> • <i>R-1-6-a: “WMATA must establish and enforce a proper protocol for language and terminology that is used over the radio – to include 100 percent word-for-word read-back for safety-related instructions and unusual train movements.”</i> <ul style="list-style-type: none"> ○ Starting at 1500 hours, the FWSO inspector began listening for RTC #2’s radio protocol compliance, performance, and overall incident command during the rush hour shift. ○ The RTC ensured all train operator requests were received properly through read-backs. The RTC closed out each radio check transmission by acknowledging, “That is a good copy,” over the radio. ○ For each communication loop, RTC #2 closed out each transmission with “over,” until closing the loop with “Central out.” ○ No exceptions were taken during the observation. 	Recommended Finding?	No
		Remedial Action Required?	No
		Recommended Reinspection?	No
Remedial Action	N/A		



Inspection Form

FOIA Exemption: All (b)(6)

Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161222-WMATA-WP-1		
	2016	12	22				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	TRST	Sub-Department	Production
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Surge 11 - East Falls Church (K05) to West Falls Church (K06)						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-JSB-OBS	TRK-WI-PI				
Inspection Units	1	1				
Inspection Subunits	1	1				
Defects (Number)	0	2				
Recommended Finding	No	No				
Remedial Action Required ¹	No	Yes				
Recommended Reinspection	No	Yes				

Activity Summaries

Inspection Activity #	1	Inspection Subject					Job Safety Briefing			Activity Code		TRK	JSB	OBS
Job Briefing Employee Name/Title	TRST 6392			Accompanied Inspector?	Yes	Out Brief Conducted	No	Time	1000-1300	Outside Shift	No			
Related Reports	N/A			Related CAPS / Findings		N/A								
Related Rules, SOPs, Standards, or Other	Ref		Rule or SOP			Standard		Other / Title		Checklist Reference				
	RWPM													
	MSRPH													
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A			
	X							X						
Line(s)	K	Track Number	1 and 2		Chain Marker and/or Station(s)		From		To					
							East Falls Church (K05)		West Falls Church (K06)					
Vehicles	Head Car Number		Number of Cars			Equipment	N/A							
	N/A		N/A											
Description	TRST 6392 provided a thorough and complete job safety briefing to FWSO personnel at the West Falls Church station platform prior to beginning work. TRST 6392 reviewed all hot spots, paying special attention to clearance areas near the K and N junction. TRST 6392 inspected FWSO personnel for proper personal							Number of Defects		0				
								Recommended Finding?		No				
								Remedial Action Required?		No				
								Recommended Reinspection?		No				

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature WINSLOW L. POWELL		Digitally signed by WINSLOW L. POWELL DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=WINSLOW L. POWELL Date: 2016.12.27 13:00:30 -05'00'		Date
Inspector in Charge - Name Winslow Powell	Inspection Team Mike Vitale			



	protective equipment (PPE) and current roadway worker protection (RWP) certification. Finally, TRST 6392 provided the Rail Operations Control Center with all required information pertaining to the job to be performed using proper radio protocol and was granted access to the right of way. No exceptions were taken with the briefing.		
Remedial Action	N/A		

Inspection Activity #	2	Inspection Subject	SafeTrack Surge 11 Post Surge Inspection				Activity Code	TRK	WI	PI	
Job Briefing Employee Name/Title	TRST 6392		Accompanied Inspector?	Yes	Out Brief Conducted	No	Time	1000-1300	Outside Shift	No	
Related Reports	N/A		Related CAPS / Findings	N/A							
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP		Standard		Other / Title		Checklist Reference			
	RWPM										
	MSRPH										
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
	X							X			
Line(s)	K	Track Number	1 and 2	Chain Marker and/or Station(s)	From			To			
					East Falls Church (K05)			West Falls Church (K06)			
Vehicles	Head Car Number		Number of Cars		Equipment	N/A					
	N/A		N/A								

Description	<p>FWSO and WMATA personnel performed a post surge inspection of the Surge 11 work area, which extended from the K05 station limits to the K and N junction. WMATA has replaced ties; added and regulated ballast; distressed existing rail; repaired ETS boxes; repaired fence line; and refurbished the Intrusion, Detection, and Warning (IDW) system. Within the work area, no exceptions were taken to the repairs made to the track infrastructure, which was complete and of good quality.</p> <p>FWSO noted the following defects with other systems:</p> <ul style="list-style-type: none"> K1 451+50 – ETS door needs replacement; latch is broken. Throughout the work area ATC cables were lying directly on the ballast, which could compromise the insulation of these cables. <p>FWSO noted some additional observations with other systems:</p> <ul style="list-style-type: none"> Fence line on track 1 still needs the bottom tension wire repaired. Wire is currently strung, but final tensioning and attachment has not been completed. K1 491+00 – ATC cables are booted and not connected to ATC equipment. WMATA should ensure proper configuration. <i>Note: This is outside the working limits.</i> Throughout the work area, various drain components seem to have been damaged or knocked askew by the ballast regulator. WMATA has marked these items for repair. 	Number of Defects	2
		Recommended Finding?	No
		Remedial Action Required?	Yes
		Recommended Reinspection?	Yes

Remedial Action	<ol style="list-style-type: none"> WMATA must replace or repair the ETS door at K1 451+50. WMATA should elevate the ATC cables off the ballast or implement a similar solution in order to preserve the insulation of these cables.
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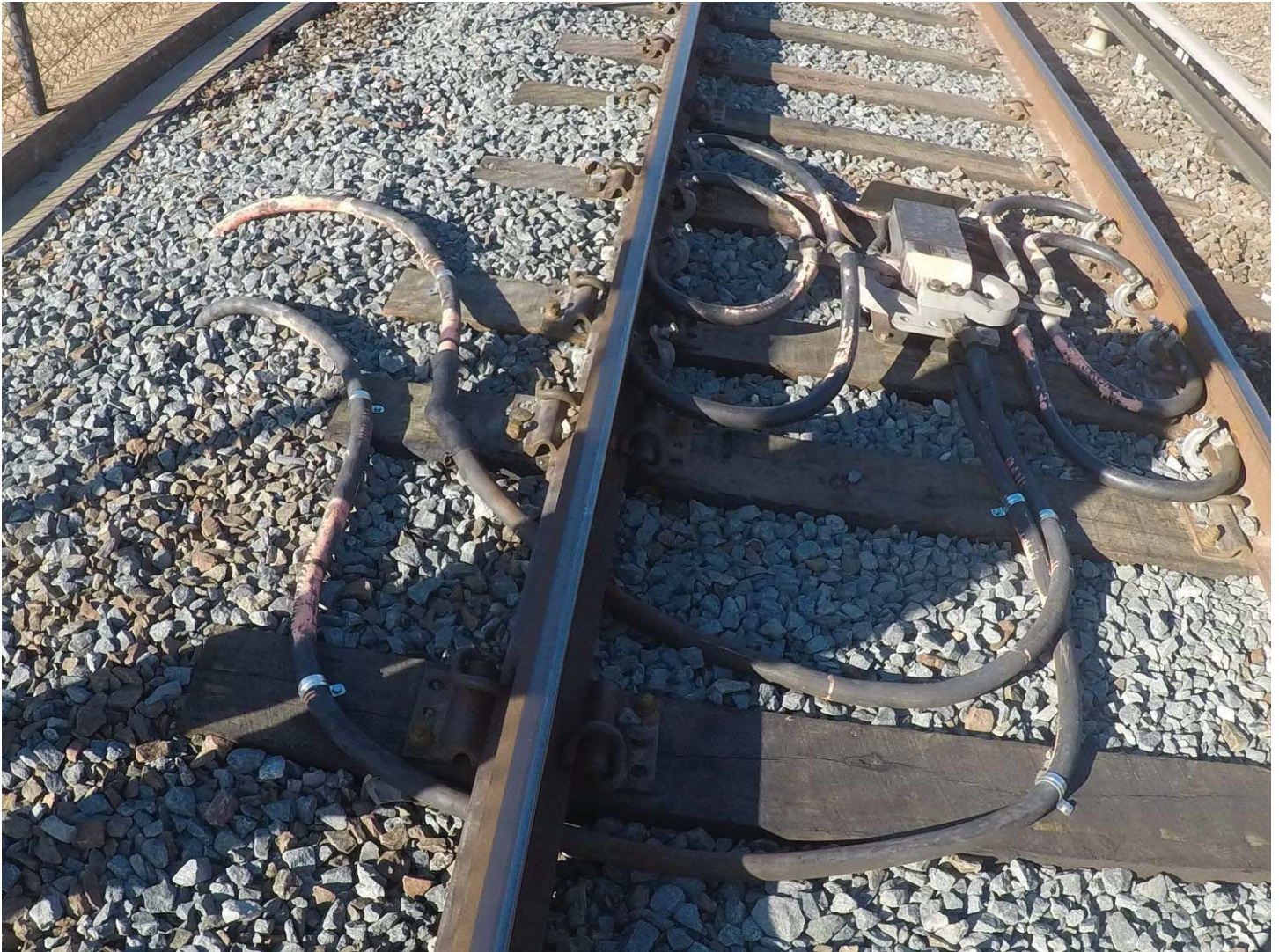
Photos:



Recently Completed Tie Replacement and Ballast addition and regulation



ETS Box with Broken Door Latch at K1 451+50



Cables in contact with ballast



Damage to drainage access, marked for repair



ATC cables booted at K1 491+00



Inspection Form

FOIA Exemption: All (b)(6) -
Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

Agency/Department Information

Inspection Date	YYYY	MM	DD	Report Number	20161230-WMATA-AD-1		
	2016	12	30				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	ROCC	Sub- Department	N/A
Rail Agency Department Contact Information	Name		Email		Office Phone		Mobile Phone
	[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]
Inspection Location	Carmen Turner Facility 3500 Pennsy Drive, Hyattsville, MD 20785						

Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	ROCC-RC-OBS					
Inspection Units	1					
Inspection Subunits	0					
Defects (Number)	0					
Recommended Finding	No					
Remedial Action Required ¹	No					
Recommended Reinspection	No					

Activity Summaries

Inspection Activity #	1	Inspection Subject	Rules Compliance & Safety Management Inspection Required Actions Observation of Rail Traffic Controllers				Activity Code	ROCC	RC	OBS	
Job Briefing Employee Name/Title	N/A		Accompanied Inspector?	N/A	Out Brief Conducted	Yes	Time	1500-1800	Outside Shift	Yes	
Related Reports	Safety Management Inspection, Final Report, June 17, 2015		Related CAPS / Findings	Required Actions: R-1-6-a, R-1-6-b, R-1-7-b, R-1-8-a, R-1-9-a							
Related Rules, SOPs, Standards, or Other	Ref	Rule or SOP	Standard		Other / Title		Checklist Reference				
	Metro rail Safety Rules and Procedures Handbook & Roadway Worker Protection Manual (2014)	Section 1 – General Rules (Radio Usage and Operation): Rules 1.69 – 1.88	X		X		X				
	Permanent Order	NO. T-16-10									
Inspection Location	Main Track	Yard	Station	OCC	RTA Facility	Main Track	Yard	At-grade	Tunnel	Elevated	N/A
				X							X
Line(s)	N/A	Track Number	N/A	Chain Marker and/or Station(s)			From		To		
							N/A		N/A		
Vehicles	Head Car Number		Number of Cars		Equipment		N/A				
	N/A		N/A								

¹ The rail transit agency must provide FTA with the necessary evidence (e.g. maintenance work order system records, photos, documentation, records, data, or other evidence) to close out the Remedial Action. Closeout of Remedial Actions may also be subject to ongoing FTA verification inspections to ensure corrections are sufficient and effective.

Inspector in Charge - Signature	AMBUR I DALEY	Digitally signed by AMBUR I DALEY DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FMCSAHQ, cn=AMBUR I DALEY Date: 2017.01.05 14:02:54 -05'00'	Date
Inspector in Charge - Name	Ambur Daley	Inspection Team	Tamara Powell



<p>Description</p>	<p>The FWSO inspector performed an observation and compliance check that focused mainly on ROCC required actions and radio usage and operation (General Rules 1.69 – 1.88 and Permanent Order T-16-10). The observation and compliance check was based on findings from the Safety Management Inspection (SMI) report, as well as rules from the Metrorail Safety Rules & Procedures Handbook. The following observations were made:</p> <ul style="list-style-type: none"> • The FWSO inspector conducted an observation of two rail traffic controllers (RTC) at the Rail Operations Control Center (ROCC) during the middle shift at the OPS 2 console, which controls and oversees operations on the Orange, Blue, and Silver Lines. The FWSO inspector observed the RTCs' radio transmissions and performance. <ul style="list-style-type: none"> ○ RTC #1, the Button Controller, has been employed at WMATA for 10 years, with 4 years in the ROCC. ○ RTC #2, the Radio Controller, has 15 years at WMATA, with 3 years in the ROCC. ○ Both RTCs have taken Bridge Training and are current on RTC recertification. <p>Observations related to SMI report findings:</p> <ul style="list-style-type: none"> • <i>R-1-6-a: "WMATA must establish and enforce a proper protocol for language and terminology that is used over the radio – to include 100 percent word-for-word read-back for safety-related instructions and unusual train movements."</i> <ul style="list-style-type: none"> ○ Starting at 1500 hours, RTC #2 ensured all train and Right-of-Way (ROW) requests were received properly through read-backs. ○ For each communication loop, RTC #2 closed out almost every transmission with "over" until closing out the loop with "Central out." ○ At 1900 hours, workers began calling onto the ROW to perform inspections and other field work. Each worker properly identified himself with location details using chain markers and stations, portable unit number, number of members assigned to the work crew, and confirmed all "hot spots" had been identified. ○ For each instance of permission granted to enter the ROW, the worker repeated back his clearance, acknowledging he would be watching for trains in each direction, and confirmed time of entry onto the ROW. • <i>R-1-6-b: "As part of the radio protocol required in R-1-6-a, WMATA must establish an approach for communicating and managing all speed restrictions that require two-way communication between the ROCC and train operator and take full advantage of available electronic AIM system features."</i> <ul style="list-style-type: none"> ○ RTC #2 also informed all trains in the area of all speed restrictions and operating changes due to the presence of workers on the ROW. There were a few exchanges between the RTC and the operators with regard to their understanding and acknowledgement of the Roadway Worker Protection (RWP) list. • <i>R-1-7-b: "WMATA must enhance RTC reference materials to direct internal operations at the ROCC, including...internal ROCC administrative policies and procedures."</i> <ul style="list-style-type: none"> ○ RTC #2 made a general announcement every 20-25 minutes of the RWP list and again every time new workers called onto the ROW. ○ When RTC #2 stepped out for a break, he properly briefed RTC #1 of the ROW status and RWP list. RTC #1 then made all announcements and updates accordingly. • <i>R-1-8-a: "WMATA must establish a clear policy that prohibits distractions from the use of cell phones and other electronic devices in the ROCC."</i> <ul style="list-style-type: none"> ○ The FWSO inspector did not observe any violations of the cell phone policy at any time during the observation period. • <i>R-1-9-a "Until such time as electronic transfer records are implemented, WMATA must ensure that its Rail Traffic Controllers use paper-based logs with formal signatures."</i> <ul style="list-style-type: none"> ○ At 2100 hours, RTC #1's shift concluded. The relieving RTC was properly informed of all operating conditions and 	<p>Number of Defects</p>	0
		<p>Recommended Finding?</p>	No
		<p>Remedial Action Required?</p>	No
		<p>Recommended Reinspection?</p>	No



	<p>anomalies, including the RWP list. The RTC also signed onto the AIM system electronically once taking over duties.</p> <p>Other observations:</p> <ul style="list-style-type: none">• At 1734 hours, FWSO inspector was informed of an incident that was in progress at the OPS 1 (Red Line) console. There was a report of a customer trespassing on the roadway at Friendship Heights Station.<ul style="list-style-type: none">○ Red Line radio RTC (<i>10 year WMATA employee, with 1 year at the ROCC</i>) warned all trains to exercise restricted speed in the vicinity until “all-clear” was called by transit police and RTRA personnel on scene.○ RTCs also made notifications to the Assistant Superintendent, Transit PD, and Fire Department.○ After “all clear” was called at 2040 hours, the FWSO inspector reviewed the video of the incident at the Emergency Personnel console at the ROCC.		
Remedial Action	N/A		