



WMSC Inspection Report 20250204

ISSUED 2/7/2025

Inspection Details

Title: Shady Grove Yard (A99) Service and Inspection Shop Negative Return Cables

Location: Shady Grove Yard (A99) Tracks 2 and 3

Date of Inspection: 2/4/2025

Time of Inspection: 11:30am to 1:00pm

Unannounced

Risk-Based (Corrective Action Plan FTA-17-1-10)

Power, Track

Overview

On December 9, 2016, the Federal Transit Administration, during the period of Federal WMATA Safety Oversight (FWSO), issued [Special Directive No. 17-1](#) related to the traction power electrification system. This directive included finding 5 that stated “WMATA does not implement a consistent program regarding the testing, inspection, and maintenance of its negative return system.” Finding 5 included several subparts:

FTA-TPE-17-005-a: WMATA must discontinue the practice of using clamped bonds as a permanent installation.

FTA-TPE-17-005-b: WMATA must locate and replace all clamped bonds with drilled rail web/bolted crimped cable connections, suitable for permanent installations.

FTA-TPE-17-005-c: WMATA must appropriately train and assign personnel to correctly install and maintain all negative return system components, including drilled rail web running rail bonds.

FTA-TPE-17-005-d: WMATA must assign maintenance personnel to inspect and repair any running rail bonded joints that are physically compromised, missing, or inadequate to perform their required function.

FTA-TPE-17-005-e: WMATA must document negative return system defects in the maintenance and repair trouble ticket system (Maximo) and assign responsibility for timely repairs.



On February 4, 2025, two WMSC inspectors visited Shady Grove Yard (A99) Service and Inspection Shop to inspect the negative return cables of A99 shop tracks 2N and 3N. The purpose of negative return cables is to provide a complete electrical circuit for the power used to operate trains, ensuring efficient and safe operation. Properly functioning negative return cables prevents electrocution, stray current from affecting signaling or other systems, and protects infrastructure from corrosion caused by stray current.

The importance of a non-defective system creates a reliable and efficient return path for electrical current which is crucial for the performance and safety of a transit system, ensuring the smooth and uninterrupted flow of power. Damaged or missing return cable pose a safety hazard because it presents an incomplete electrical circuit and could result in electrocution. Inspectors identified three locations where negative return cables were missing (defects 1–3). One location was missing some insulation (defect 4). Another location evidenced a temporary repair using clamps (defect 5).

After conclusion of the inspection, the inspector conducted a debrief with Tony Tungcod in accordance with Program Standard Section 6.F.1.

Defects and Corrective Actions

WMSC Inspections identify safety issues that may be classified as defects, findings, or recommendations. Findings and recommendations are defined by Program Standard Section 5.E.2 and 5.E.3 respectively. Ordinarily, issues identified in a WMSC inspection report are classified as defects. Defects are specific safety issues of non-conformance/non-compliance that are identified and that require remedial action.

This inspection did not identify any findings or recommendations and therefore does not require a WMSC Corrective Action Plan in accordance with Program Standard Section 5.E.4.

This inspection identified 5 defects:

Defect 1

Track 2N, missing negative return cable.

Hazard Rating: 2D

Photo



Photo 1: Track 2N showing missing negative return cable.



Defect 2

Track 3N, a different location with missing negative return cables.

Hazard Rating: 2D

No photo

Defect 3

Track 3N, a different location with missing negative return cables.

Hazard Rating: 2D

No photo

Defect 4

On Track 3N, a negative return cable showed deterioration on the insulated cover.

Hazard Rating: 2D

Photo



Photo 2: Negative return cable with insulated cover showing deterioration.



Defect 5

On track 3N, negative return cable with temporary clamps being used to support a wheel chock and otherwise presenting slack in the cable.

Hazard Rating: 3D

Photo



Photo 5: Negative return cable with temporary clamps being used to support a chock and presenting slack in the cable.

Next Steps

Please respond by **Monday, February 10, 2025**, to acknowledge receipt and to convey responses to the WMSC regarding what, if any, actions will be or have been taken in response to the noted defects.

Please respond by **Thursday, February 13, 2025**, with the following information or documentation:

1. For Shady Grove Service and Inspection Shop, provide all Maximo work orders created for the negative return system since January 1, 2022.
2. Provide the most recent inspection reports that includes the negative return system for all shops and rail yards.
3. Provide the procedure, work instruction, or other document that pertains to the inspection of the negative return system.