



INTERNAL REVIEW

Engineering & Maintenance

In response to the internal review of Engineering and Maintenance, including review of Metrobus Maintenance and Engineering, Metrobus Parts and Material Inventory Management, Metrorail Vehicle Maintenance and Engineering, Metrorail Vertical Transportation: Elevator Maintenance & Inspections, and Metrorail Automatic Fare Collection (AFC) Inspection & Maintenance, the office of Quality Assurance, Internal Compliance & Oversight (QICO) has coordinated the development of twenty (20) iCAPAs. Each iCAPA outlines the findings, recommendation and requirements to be addressed, and a detailed action plan outlining responsible parties and specific actionable items.

EXECUTIVE LEADERSHIP OF RESPONSIBLE PARTIES

internal Corrective and Preventive Action (iCAPA) Commitment



Joseph Leader
Chief Operating Officer (COO)

4/26/18

Date

WMATA INTERNAL OVERSIGHT

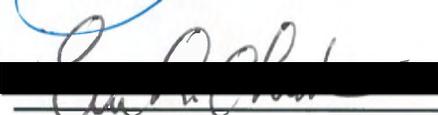
internal Corrective and Preventive Action (iCAPA) Acknowledgement



Angel Peña
Managing Director, Quality Assurance, Internal Compliance & Oversight (QICO)

4/26/18

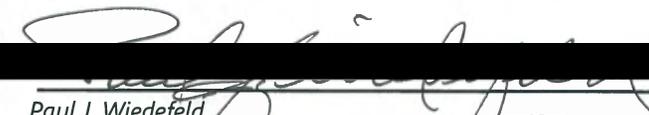
Date



Eric Christensen
Chief of Internal Compliance (INCP)

4/27/18

Date



Paul J. Wiedefeld
General Manager & Chief Executive Officer (GM/CEO)

4/27/18

Date

METROBUS MAINTENANCE AND ENGINEERING iCAPAs

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance and Oversight (QICO) issued an internal review report regarding Metrobus Maintenance & Engineering. This Internal Corrective and Preventive Action (iCAPA) has been developed to address required action BME-18-01 and the associated finding(s).

Required Action

QICO-BME-18-01 *Office of Bus Maintenance (BMNT)*
Office of Plant Maintenance (PLNT)
Department of Bus Services (BUSV)

High 

Incorporate a sustainable maintenance plan to monitor the condition and safety of all bus maintenance equipment.

Applicable Finding(s)

- F-BME-18-01: Training personnel on the use of safety equipment and maintaining a hazard free workplace promotes a safe and reliable work environment.
 - o Measure: [Job Safety](#). Risk: [Safety -- High \(5.4\)](#)

Action Plan Overview

Bus Maintenance (BMNT) will remind all staff of reporting procedures for facility equipment issues. BMNT will review the existing Annual Safety Training Curriculum and make necessary updates to include Fall Protection which will be incorporated into the existing annual certification training schedule. Plant Maintenance (PLNT) will identify equipment requiring repair or calibration and take necessary action. PLNT will also implement an annual Maximo inspection plan for all jib cranes.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Revision of SOP 5.1	BMNT will revise Standard Operating Procedure (SOP) 5.1 and distribute a staff notice on proper procedure for reporting facility issues. BMNT will submit the SOP and evidence of distribution of the staff notice.	Raphael Alfred (BMNT)	04/02/18	07/11/18
2. Repairs or Inspections Identified to Facility Equipment	PLNT will review the identified equipment requiring repair or calibration and take necessary action. PLNT will submit related Maximo work orders for affected assets identified in the internal review.	Charles Campbell (PLNT)	03/19/18	07/11/18
3. Maintenance Planning Implementation for Jib Cranes	Plant Maintenance, using Maximo will implement an annual inspection plan for all jib cranes. PLNT will submit Maximo records showing inspection plan.	Charles Campbell (PLNT)	03/19/18	05/02/18
4. Review Annual Safety Training Curriculum	BMNT will submit updated curriculum that includes Fall Protection and training plan/certification schedule.	Raphael Alfred (BMNT)	04/02/18	01/02/19
5. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	01/02/18	1/30/19

Completion Documentation & Performance Measures

- Fall Protection and training plan & Enterprise Learning Management (ELM) training records for active bus technicians six months after curriculum implementation.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

INTERNAL CORRECTIVE AND PREVENTIVE ACTION (iCAPA)

QICO-BME-18-01

Responsible Parties

BMNT Raphael Alfred

[Redacted Signature]

4/17/18
(Signature/Date)

PLNT Charles Campbell

[Redacted Signature]

4/17/18
(Signature/Date)

Second-Level Responsibility

BMNT David Michels

[Redacted Signature]

4-17-18
(Signature/Date)

PLNT Leroy Jones

[Redacted Signature]

4-17-18
(Signature/Date)

BUSV Robert Potts

[Redacted Signature]

4/20/18
(Signature/Date)

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance and Oversight (QICO) issued an internal review report regarding Metrobus Maintenance & Engineering. This Internal Corrective and Preventive Action (iCAPA) has been developed to address required action BME-18-02 and the associated finding(s).

Required Action

QICO-BME-18-02 *Office of Bus Maintenance (BMNT)*
Department of Bus Services (BUSV)

Elevated 

Identify opportunities to update requirements for data entry, parts identification, storage, equipment testing, and calibration.

Develop, train on, and implement a standardized and controlled procedure for Maximo data entry and validation, including quality control checks to promote consistency and reliability of work being performed.

Applicable Finding(s)

- F-BME-18-02: Consistent and accurate capture of work order data in Maximo is essential to effective monitoring, tracking, and analyzing of performed maintenance.
 - o Measure: [*Data Assurance*](#). Risk: [*Service Delivery Risk – Elevated \(4,4\)*](#)

Action Plan Overview

Bus Maintenance (BMNT) will review and update the Maximo standard operating procedure to incorporate a specific minimum requirement of data entry and quality control plan to measure and improve compliance. BMNT will analyze the workload requirements and consider if additional positions are needed to maintain the quality program. BMNT will incorporate a new or revised Maximo work order training course for employees responsible for Maximo work order data.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Develop Standard Operating Procedure for Maximo Work Order Data Entry and Management	BMNT will review current process to include responsibilities of the maintenance personnel, their supervision and senior management and will create a standard operating procedure (SOP). BMNT will submit new SOP.	Raphael Alfred (BMNT)	04/15/18	08/01/18
2. Establish Quality Management Program that will Monitor Maximo Work Order Data and Direct Corrective Actions	BMNT will establish specific guidelines for supervision in their review of work order data prior to closeout and steps to be taken when corrections are needed. These guidelines will mirror Service Bulletin 12-P-007 – Engine Compartment Inspections. BMNT will submit new SOP.	Raphael Alfred (BMNT)	04/30/18	01/02/19
3. Quality Management Staff Assessment	Staffing analysis to determine BMNT’s need for a quality control manager to ensure consistency in its improvement efforts and data entry on work performed.	Raphael Alfred (BMNT)	04/30/18	01/02/19
4. Train Appropriate Bus Maintenance Personnel on New Standard Operating Procedure	BMNT will train maintenance personnel (bus technicians, clerks and supervisors) responsible for entry and review of Maximo work order data as per actionable item #1. BMNT will submit curriculum and training records.	Raphael Alfred (BMNT)	09/01/18	03/06/19
5. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	03/06/19	04/03/19

Completion Documentation & Performance Measures

- SOP curriculum for Maximo work order data entry & management associated with actionable item 4.
- Training records pertaining to SOP for Maximo work order data entry & management as per actionable item 4.
- Evidence of Maximo records showing compliance with minimum data entry requirements & quality control checks for a three month period.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Party

BMNT

Raphael Alfred



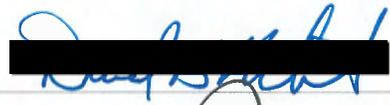
4/17/18

(Signature/Date)

Second-Level Responsibility

BMNT

David Michels

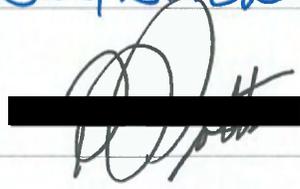


4-17-18

(Signature/Date)

BUSV

Robert Potts



4/20/20

(Signature/Date)

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance and Oversight (QICO) issued an internal review report regarding Metrobus Maintenance & Engineering. This Internal Corrective and Preventive Action (iCAPA) has been developed to address required action BME-18-03 and the associated finding(s).

Required Action

QICO-BME-18-03 *Office of Bus Maintenance (BMNT)*
Office of Bus Services (BUSV)

Elevated 

Identify opportunities to update requirements for data entry, parts identification, storage, equipment testing, and calibration.

Develop a standardized procedure for parts and materials identification and traceability, requalification, handling and storage on the shop floor.

Applicable Finding(s)

- F-BME-18-03: Developing written requirements for parts management, workplace organization and housekeeping is vital for safe and reliable bus operations.
 - o Measure: Quality Control Risk: Service Delivery Risk – Elevated (4,4)

Action Plan Overview

Bus Maintenance (BMNT) will assess the current conditions around parts stored outside of storerooms and establish new or revised standard operating procedures on management of parts outside of storerooms and train staff to these revisions. Provide training to all impacted employees for existing policies and procedures specific to actionable item one. Provide training on any new/revised procedures as documented in action item two.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Create BMNT Standard Operating Procedure (SOP)	Review Operations Administrative Procedure (OAP) 600-04 and create a new BMNT procedure to include procedure for parts and materials identification and traceability, requalification, handling and storage on the shop floor. BMNT will submit the new SOP in coordination with OAP 600-04.	Timothy St. John (BMNT)	04/02/18	08/01/18
2. New SOP Training	BMNT will train maintenance personnel (bus technicians, clerks and supervisors) on the new implemented procedure(s). BMNT will create a checklist to track compliance as identified in actionable item #1. BMNT will submit training curriculum.	Timothy St. John (BMNT) Raphael Alfred (BMNT)	08/01/18	10/31/18
3. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	10/31/18	11/28/18

Completion Documentation & Performance Measures

- Evidence of two quarterly audits to determine compliance with new SOP.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Parties

BMNT Raphael Alfred

 4/17/18
(Signature/Date)

BMNT Timothy St. John

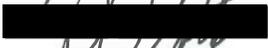
 4/17/18
(Signature/Date)

Second-Level Responsibility

BMNT David Michels

 4-17-18
(Signature/Date)

BUSV Robert Potts

 4/20/18
(Signature/Date)

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance and Oversight (QICO) issued an internal review report regarding Metrobus Maintenance & Engineering. This Internal Corrective and Preventive Action (iCAPA) has been developed to address required action BME-18-04 and the associated finding(s).

Required Action

QICO-BME-18-04

Office of Bus Maintenance (BMNT)
Office of Bus Engineering (BENG)
Department of Bus Services (BUSV)

Moderate



Identify opportunities to update requirements for data entry, parts identification, storage, equipment testing, and calibration.

Develop a standardized procedure for tools and bench testing equipment (BTE) including calibration management, labelling and identification, appropriate storage and periodic reviews.

Applicable Finding(s)

- **F-BME-18-04:** Establishing inventory and equipment calibration control procedures are essential to completing effective maintenance activities.
 - o *Measure:* [Quality Control](#). *Risk:* [Service Delivery Risk – Moderate \(3,4\)](#)

Action Plan Overview

Bus Maintenance (BMNT) currently tracks and conducts calibration of some tools through use of Maximo and the process is standardized in Standard Operating Procedure (SOP) 5.6 – Torque Wrench Calibration. A training video on the BMNT website details the procedures. This procedure will be reviewed and updated to ensure all appropriate tools are included and establish new preventative maintenance work orders, if needed. BMNT will update SOP 3.21 – Housekeeping Policy to include requirements for put away of tools and equipment in their designated areas.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Update SOP 5.6	BMNT will update SOP 5.6 to include requirement of calibration test labels from outside vendors and labels on tools calibrated internally within BMNT. Bus Engineering (BENG) will submit updated SOP.	Barry Goldman (BENG)	04/02/18	07/11/18
2. Update SOP 3.21	BMNT will submit revised SOP 3.21 and compliance plans to include requirements to store tools and equipment to their designated areas, including a log of tools within the storage areas.	Barry Goldman (BENG) Bruce Hobbs (BMNT)	04/02/18	07/11/18
3. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	07/11/18	08/08/18

Completion Documentation & Performance Measures

- QICO field assessment of BMNT facilities to check compliance with calibration labels.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

INTERNAL CORRECTIVE AND PREVENTIVE ACTION (iCAPA)

QICO-BME-18-04

Responsible Parties

BENG Barry Goldman [Redacted Signature] 4/17/18
(Signature/Date)

BMNT Bruce Hobbs [Redacted Signature] 4-17-18
(Signature/Date)

Second-Level Responsibility

BMNT David Michels [Redacted Signature] 4-17-18
(Signature/Date)

BUSV Robert Potts [Redacted Signature] 4/20/18
(Signature/Date)

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance and Oversight (QICO) issued an internal review report regarding Metrobus Maintenance & Engineering. This Internal Corrective and Preventive Action (iCAPA) has been developed to address required action BME-18-05 and the associated finding(s).

Required Action

QICO-BME-18-05 *Office of Bus Maintenance (BMNT)*
Office of Bus Engineering (BENG)
Department of Bus Services (BUSV)

Moderate 

Identify opportunities to update requirements for data entry, parts identification, storage, equipment testing, and calibration.

Develop a Quality Control Plan (QCP) for BMNT corrective and preventative maintenance to promote consistent application of work and promote compliance and adherence to maintenance practices and procedures.

Applicable Finding(s)

- F-BME-18-05: Implementing a Quality Control Plan (QCP) for bus corrective and preventative maintenance will promote consistent maintenance practices.
 - o Measure: [Quality Control](#) Risk: [Service Delivery Risk – Moderate \(3,4\)](#)

Action Plan Overview

Bus Maintenance (BMNT) and Bus Engineering (BENG) will develop a Standard Operating Procedure (SOP) detailing the quality control checks of the engine compartment as well as other maintenance activities including the associated checklist and forms. This procedure will provide a standardized criteria checklist to be completed by the designee conducting the inspection as well as detail the requirements for documenting the inspection and retention of associated documents. The results of the quality control test will be documented through the forms and referenced in the associated Maximo work orders.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Develop SOP for Monthly 5 percent Engine Compartment Inspections	BENG will develop an SOP detailing the requirements of the required 5 percent quality control engine compartment inspections. This SOP will provide a standardized criteria checklist to be completed by the designee conducting the inspection. This SOP will ensure quality, consistency and standardization of the required inspection. BENG will submit the new SOP.	Barry Goldman (BENG)	04/16/18	08/01/18
2. Establish Quality Management Program that will Monitor Maximo Work Order Data and Direct Corrective Actions	BMNT will establish specific guidelines for supervision in their quality control of work order data prior to closeout and steps to be taken when corrections are needed. These guidelines will mirror Service Bulletin 12-P-007 – Engine Compartment Inspections. BMNT will submit the new SOP.	Raphael Alfred (BMNT)	04/30/18	01/02/19
3. Quality Management Staff Assessment	Staffing analysis to determine BMNT’s need for a quality control manager to ensure consistency in its improvement efforts and data entry on work performed.	Raphael Alfred (BMNT)	04/30/18	01/02/19
4. Train Bus Maintenance Personnel on New SOP	BMNT will train supervisors responsible for 5% engine compartment inspections and Maximo work order closure. BMNT will submit the training curriculum.	Raphael Alfred (BMNT)	04/16/18	01/02/19
5. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	01/02/18	1/30/19

Completion Documentation & Performance Measures

- Training records for all active BMNT supervisors on quality control plan SOP.
- QICO will conduct an assessment for compliance with Quality Control forms and associated Maximo work orders.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Parties

BMNT Raphael Alfred [Redacted] 4/17/18
(Signature/Date)

BENG Barry Goldman [Redacted] 4-17-18
(Signature/Date)

Second-Level Responsibility

BMNT David Michels [Redacted] 4-17-18
(Signature/Date)

BUSV Robert Potts [Redacted] 4/20/18
(Signature/Date)

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance and Oversight (QICO) issued an internal review report regarding Metrobus Maintenance & Engineering. This Internal Corrective and Preventive Action (iCAPA) has been developed to address required action BME-18-06 and the associated finding(s).

Required Action

QICO-BME-18-06

Office of Bus Maintenance (BMNT)
Department of Information Technology (OIT)
Bus Technology System Support (BTSS)
Department of Bus Services (BUSV)

Moderate



Revise procedures for diagnostic equipment to include software expiration, hardware condition, and equipment assignment.

Applicable Finding(s)

- F-BME-18-06: Providing updated diagnostic computers and troubleshooting software are essential for effective and efficient bus repair activities.
 - o Measure: [Assets and Activities](#) Risk: [Service Delivery Risk – Moderate \(3,4\)](#)

Action Plan Overview

Bus Technology System Support (BTSS) will evaluate the requirements, cost and timeline of ensuring appropriate access levels as well as acquiring new troubleshooting laptops to ensure hardware meets all Bus Maintenance (BMNT) requirements. BTSS will evaluate alternative software license purchasing process and develop a software expiration tracking standard operating procedure.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Evaluate the Existing Diagnostic Hardware	Determine the scope, requirements, cost and timeline of ensuring appropriate access levels as well as acquiring new troubleshooting laptops to ensure hardware meets all BMNT requirements. BMNT will submit the viable options, recommendations and funding information.	Raphael Alfred (BMNT) Zafar Chaudhry (IT DCI)	04/01/18	06/06/18
2. Alternative Software Licensing Process	Evaluate alternative software license purchasing process and implement accordingly. BTSS will submit the licensing process plan.	Raphael Alfred (BMNT)	04/30/18	08/01/18
3. Develop a Software Expiration Tracking Procedure	Develop a software expiration tracking SOP to make certain licenses are renewed prior to expiration. BTSS will submit new SOP.	Raphael Alfred (BMNT)	04/30/18	08/01/18
4. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	08/01/18	09/05/18

Completion Documentation & Performance Measures

- QICO will conduct an assessment for 100 percent software license compliance (in-service laptops).

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

INTERNAL CORRECTIVE AND PREVENTIVE ACTION (iCAPA)

QICO-BME-18-06

Responsible Parties

BMNT Raphael Alfred [Redacted Signature] 4/17/18
(Signature/Date)

IT DCI Zafar Chaudhry [Redacted Signature] 4/20/2018
(Signature/Date)

Second-Level Responsibility

OIT Albert Short [Redacted Signature] 4/20/18
(Signature/Date)

BMNT David Michels [Redacted Signature] 4-17-18
(Signature/Date)

BUSV Robert Potts [Redacted Signature] 4/20/18
(Signature/Date)

METROBUS PARTS & MATERIAL INVENTORY MANAGEMENT iCAPAs

Purpose and Scope

On March 8, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review report regarding the current policies, procedures, and practices associated with WMATA's Parts & Materials Inventory Management. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-BMI-18-01 and the associated finding.

Required Action

QICO-BMI-18-01

*Bus Maintenance (BMNT)**Elevated* 

Identify opportunities to implement sustainable methods for reducing inventory inaccuracies and lead time variances.

Applicable Finding(s)

- F-BMI-18-01: Effective management of supply chain systems, including maintaining and updating lead times, will assure the availability of parts and materials.
 - o *Measure: [Change Management](#). Risk: [Strategic Risk– Elevated \(4.4\)](#)*

Action Plan Overview

PLAN OVERVIEW

Bus Maintenance (BMNT) will submit a report outlining its plan to develop and implement sustainable methods for reducing inventory inaccuracies and lead time variances and provide training to all impacted employees on new methods. They will track decreases in inventory inaccuracies for three quarters.

Business Impact - Budget/Cost Estimate

- **Process Improvement** – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Approach Plan	<p>BMNT will submit the Approach Plan to develop and implement sustainable methods for reducing inventory inaccuracies and lead time variances. Included in the plan will be:</p> <ul style="list-style-type: none"> • Review of current procedures and count book results identifying weaknesses that led to inaccuracies in inventory. • Comprehensive list of action items required to decrease inventory inaccuracies. 	Timothy St. John (BMNT)	04/13/18	05/30/18
2. Implementation of Procedures	Implement the procedures and track/measure compliance as identified in actionable item 1. BMNT will submit three quarterly reports summarizing changes in inventory accuracies.	Timothy St. John (BMNT)	05/01/2018	03/27/19
3. Staff Training	BMNT will provide training to all impacted bus maintenance storeroom and material logistics personnel on SOPs specific to maintaining inventory accuracy and plans included in actionable item 1. BMNT will submit evidence of personnel training.	Timothy St. John (BMNT)	07/02/2018	05/29/2019
4. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	05/29/19	06/26/2019

Completion Documentation & Performance Measures

- 95 percent of active personnel trained.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Parties

BMNT

Timothy St. John



4/24/2018

(Signature/Date)

BMNT

David Michels



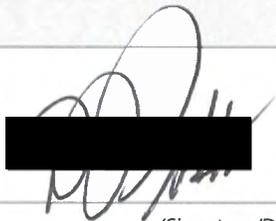
4/24/18

(Signature/Date)

Second-Level Responsibility

BUSV

Robert Potts



4/25/18

(Signature/Date)

Purpose and Scope

On March 8, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review report regarding the current policies, procedures, and practices associated with WMATA's Parts & Materials Inventory Management. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-BMI-18-02 and the associated finding.

Required Action

QICO-BMI-18-02

*Bus Maintenance (BMNT)**Moderate**Supply Chain Enterprise System (SCES)*

Incorporate a process to assure discrepant material cannot be mistaken for approved material.

Applicable Finding(s)

- F-BMI-18-03: Separation of discrepant material and approved material is necessary to reduce the risk of non-compliant parts being installed on buses.
 - o Measure: Quality Control Risk: Safety Risk -- Elevated (3.3)

Action Plan Overview

PLAN OVERVIEW

Bus Maintenance (BMNT) will submit a report outlining the plan to develop and implement a process to assure the discrepant material cannot be mistaken for approved material. BMNT will revise procedures to provide clear direction on how and where to store non-compliant material to eliminate the risk of being mixed with incoming material at supplying storerooms 100, 110, and 400. If necessary, a procurement package will be developed to purchase the necessary physical barrier. BMNT will implement the procedures and track/measure material storage compliance.

Business Impact - Budget/Cost Estimate

- **Process Improvement** – A current process/procedure needs to be optimized to address the FTA Required Action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Approach Plan	<p>BMNT will submit the Approach Plan to develop and implement a process to assure the discrepant material cannot be mistaken for approved material. Included in the report will be:</p> <ul style="list-style-type: none"> • Overview of current procedures identifying how non-compliant material is handled and stored at supplying storerooms 100, 110, and 400. • Comprehensive list of action items required to assure material storage compliance. 	<p>Timothy St. John (BMNT) Supporting Office⁴: Rodolfo Bitar (SCES)</p>	04/19/18	05/30/18
2. Material Storage SOP	Develop and distribute procedure providing direction on how and where to store non-compliant material to eliminate the risk of being mixed with incoming material at supplying storerooms 100, 110, and 400. BMNT will submit the SOP and evidence of distribution.	<p>Timothy St. John (BMNT) Supporting Office⁴: Rodolfo Bitar (SCES)</p>	05/01/18	01/30/19
3. Implementation of SOP	Implement Material Storage SOP and track/measure compliance as identified in actionable item #2. BMNT will submit three quarterly reports summarizing material storage compliance.	<p>Timothy St. John (BMNT) Supporting Office⁴: Rodolfo Bitar (SCES)</p>	07/02/18	03/27/19
4. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	03/27/2019	04/24/2019

Completion Documentation & Performance Measures

- 95 percent intermixed material storage compliance as per action item #2.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

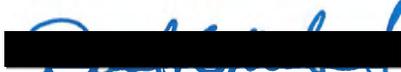
⁴ Offices designated as supporting roles provide subject matter expertise to responsible parties during action development and are not directly responsible for delivery of actionable items listed above.

Responsible Parties

BMNT Timothy St. John

 4/25/2018
(Signature/Date)

BMNT David Michels

 4-25-18
(Signature/Date)

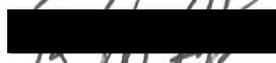
Supporting Role Acknowledgement

SCES Rodolfo Bitar



(Signature/Date)

BUSV Robert Potts

 4/25/18
(Signature/Date)

METRORAIL VEHICLE MAINTENANCE & ENGINEERING iCAPAs

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review report regarding Metrorail Vehicle Maintenance & Engineering. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-RCM-18-01 and the associated finding(s).

Required Action

QICO RCM-18-01

Office of Car Maintenance (CMNT)

High

Perform safety and equipment certification assessment at all facilities. Implement methods to maintain safety critical items.

Assess the safety compliance and state of the different facilities, and take immediate corrective actions. Develop a sustainable preventive program to internally monitor and maintain the safety condition of the facilities.

Applicable Finding(s)

- F-RCM-18-01: Compliance with the safety requirements is necessary for a safe and reliable working environment.
Measure: [Job Safety](#). Risk: [Safety-- High \(5,4\)](#).

Action Plan Overview

Car Maintenance (CMNT) Supervisors will inspect all in-use High Voltage insulating gloves at the beginning of each shift and document these inspections on an approved inspection log. CMNT Superintendents or Assistant Superintendents shall conduct a weekly spot checks to verify these requirements are in compliance and document these audits on a spreadsheet. The result of the Superintendent's spot check audits shall be submitted to the respective Assistant General Superintendent. CMNT Superintendents or Assistant Superintendents shall establish a Lockout/Tagout (LOTO) log book as directed by CMNT SOP 3.07. The Superintendents or Assistant Superintendents conduct a quality control check of the LOTO log book records and protocols annually and document the audit in the log book form. The result of the Superintendent's quality control check will be submitted to the respective Assistant General Superintendent.

CMNT is responsible for the monthly inspection of fire extinguishers on movable assets such as welding carts, rail vehicle movement equipment, etc. CMNT shall inspect and complete the monthly inspections for movable asset fire extinguishers during its monthly inspection and document same in the MAXIMO work order.

District CMNT Assistant General Superintendents shall conduct an assessment of each shop under their direction to determine the appropriate quantity and placement of first aid kits for each shop location. At the conclusion of this assessment, each District Assistant General Superintendent will specify, in writing, the approved quantity and placement of first aid kits for each shop under their jurisdiction. CMNT will use the Monthly Shop Safety and Health Inspection Checklist to document the inspection of first aid kits.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. High Voltage Gloves Inspection Log Records	Superintendents or Assistant Superintendents shall conduct weekly spot checks of high voltage gloves inspection logs and document their weekly audits on a spreadsheet. CMNT will submit the spreadsheet showing three months' of inspection log records.	Larry Skelton (CMNT)	05/01/18	08/15/18
2. Lockout/Tagout Log Book Inspection	Superintendents or Assistant Superintendents shall conduct annual reviews of the LOTO log book and protocols. CMNT will submit the log book form showing the annual review was completed.	Larry Skelton (CMNT)	05/01/18	08/15/18
3. Non-Facility Fire Extinguisher Inspection	CMNT will provide three months' completed MAXIMO work orders for moveable assets that have fire extinguishers installed.	Larry Skelton (CMNT)	05/01/18	08/15/18
4. Facility First Aid Kits	CMNT will conduct monthly inspections of facility first aid kits and document inspections on the Monthly Shop Safety & Health Inspection Checklist. CMNT will provide three months' completed checklists.	Larry Skelton (CMNT)	05/01/18	08/15/18
5. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	08/15/18	09/12/18

Completion Documentation & Performance Measures

- 95 percent compliance of all records as per actionable items 1-4.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

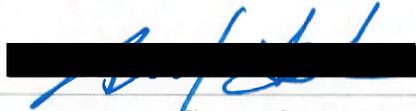
² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Party

CMNT

Larry Skelton



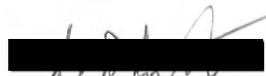
4-25-18

(Signature/Date)

Second-Level Responsibility

CMO

John Doherty



4-25-18

(Signature/Date)

RAIL

Andrew Off



25 APR 18

(Signature/Date)

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review report regarding Metrorail Vehicle Maintenance & Engineering. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-RCM-18-02 and the associated finding(s).

Required Action

QICO-RCM-18-02 *Office of Car Maintenance (CMNT)*

High 

Perform safety and equipment certification assessments at all facilities. Implement methods to maintain safety critical items.

Assess the certification status of all lifting devices and accessories and implement immediate corrective actions. Review the current inspection and certification procedures and update them accordingly to achieve a robust process, including effective visualization of the status of all covered equipment.

Applicable Finding(s)

- F-RCM-18-02: Maintaining certification of lifting devices is necessary for safe and reliable maintenance operations.
 - o Measure: [Job Safety](#), Risk: [Safety-- High \(5.4\)](#).

Action Plan Overview

Car Maintenance (CMNT) Precision Measuring Device (PMD) Monitors shall verify that all lifting devices and slings in use have a certificate of weight limitation uploaded to Documentum, on file, and MAXIMO per CMNT Standard Operating Procedure (SOP) 3.04.

CMNT Superintendents or Assistant Superintendents shall conduct a monthly check to verify these requirements are in compliance and document these audits on a spreadsheet. The result of the Superintendent's spot check audits shall be submitted to the respective Assistant General Superintendent.

- CMNT PMD Monitors shall verify that maximum load capacities, asset numbers and serial numbers are clearly marked on all lifting devices and slings assigned to their shop per CMNT SOP 3.04;
- CMNT Superintendents or Assistant Superintendents shall verify that monthly inspections are completed on all lifting devices and slings assigned to their shop per CMNT SOP 3.04;
- CMNT Superintendents or Assistant Superintendents shall conduct a monthly check to verify compliance with the requirements in SOP 3.04 to include a signed monthly MAXIMO report;
- CMNT PMD Monitors shall verify that all lifting device attachments that can be interchangeable with other lifting devices assigned to their shop are identified with the maximum load capacity per OSHA 1910.184 (e) (2) (i); and
- CMNT PMD Monitors shall ensure a clear path is documented to each attachment weight limitation certificate.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Weight Certifications	Superintendents or Assistant Superintendents shall conduct a monthly spot check to verify weight certifications are on file for each device in use. CMNT will submit a certificate of weight limitation and correlating asset numbers for 25 percent of lifting devices in use at each shop.	Larry Skelton (CMNT)	05/01/18	06/27/18
2. Maximum Load, Asset and Serial Numbers are Attached to Asset	Superintendents or Assistant Superintendents shall conduct a monthly spot check to verify maximum load, asset and serial numbers are attached to each device. CMNT will submit three months of completed audits and results.	Larry Skelton (CMNT)	05/01/18	08/15/18
3. Monthly Inspections Quality Control	Superintendents or Assistant Superintendents shall conduct a monthly spot check to verify monthly inspections are being documented in MAXIMO for each device. CMNT will submit three months of MAXIMO reports to indicate lifting device inspections are being performed when due.	Larry Skelton (CMNT)	05/01/18	08/15/18
4. Lifting Device Attachments and Load Certificates.	Superintendents or Assistant Superintendents shall conduct a monthly spot check to verify lifting device attachments have proper load weight certificates on file. CMNT will submit three months of completed audits and results.	Larry Skelton (CMNT)	05/01/18	10/03/18
5. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	10/03/18	11/07/18

Completion Documentation & Performance Measures

- 95 percent audit and inspection compliance as per actionable items 2-4.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Party

CMNT

Larry Skelton

[Redacted Signature]

4-25-18

(Signature/Date)

Second-Level Responsibility

CMO

John Doherty

[Redacted Signature]

4-25-18

(Signature/Date)

RAIL

Andrew Off

[Redacted Signature]

25 APR 18

(Signature/Date)

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review report regarding Metrorail Vehicle Maintenance & Engineering. This internal Corrective and Preventive Action (iCAPA) has been developed to address recommended action QICO-RCM-18-03 and the associated finding(s).

Required Action**QICO-RCM-18-03****Office of Car Maintenance (CMNT)***Elevated* 

Establish shop specific metrics to improve maintenance performance and Maximo data collection.

As part of the planned implementation of the latest revision of Maximo, establish detailed requirements for data entry and validation, and establish detailed criteria for a Quality Control Plan (QCP) pertaining to preventive and corrective maintenance Maximo work order completion and closure.

Applicable Finding(s)

- F-RCM-18-03: Consistent and accurate capture of work order data in Maximo is essential to effective monitoring, tracking, and analysis of completed maintenance.
 - o Measure: [Data Assurance](#), Risk: [Service Delivery– Elevated \(4,4\)](#).

Action Plan Overview

Car Maintenance (CMNT) Superintendents or Assistant Superintendents shall verify that Shift Supervisors are adhering to the procedures outlined in CMNT Standard Operating Procedure (SOP) 1.04 when working with MAXIMO corrective maintenance (CM) work orders. CMNT Superintendents or Assistant Superintendents shall conduct quality control checks of all completed (COMP) work orders for accuracy prior to placing the work order into the closed (CLOSED) status as required by CMNT SOP 1.04.

CMNT Supervisors shall review all deferred work orders during the vehicles' unscheduled maintenance phase while the vehicle is in the shop to assess whether that particular defect can be fixed and/or troubleshoot per CMNT SOP 1.06. CMNT Superintendents or Assistant Superintendents shall conduct a weekly check to verify these requirements are being met and print out and sign a MAXIMO report each month to document their audits. The result of the Superintendent's spot check audits shall be submitted to the respective Assistant General Superintendent.

CMNT Periodic Inspection (PI) Supervisors shall place all deferred work orders in progress (INPRG) state and assign a technician to address the deferral with the exception of any deferred work order where a part has been placed on-order and is not available to be installed per CMNT SOP 1.06. CMNT Superintendents or Assistant Superintendents shall conduct a weekly spot checks to verify these requirements are in compliance and document these audits on a spreadsheet. The result of the Superintendent's spot check audits shall be submitted to the respective Assistant General Superintendent.

CMNT Shift Supervisors shall ensure all parts removed from rail vehicles are properly tagged and signed per CMNT SOP 1.06. CMNT Superintendents or Assistant Superintendents shall conduct a weekly spot checks to verify these requirements are in compliance and document these audits on a spreadsheet. The result of the Superintendent's spot check audits shall be submitted to the respective Assistant General Superintendent.

To address open work orders, CENV will dispose of all open Maximo work orders for Engineering Test Plans (ETP) on revenue rail car assets where testing has concluded. In addition, CENV will dispose of all open Maximo work orders for Engineering Modification Instructions (EMI) on revenue rail car assets that have been superseded by a subsequent EMI. CENV will dispose of all open Maximo work orders for EMI campaigns that have been identified as ineligible for capital funding, or otherwise will not be implemented.

CENV will establish a new procedure governing the lifecycle of CENV-generated Maximo work orders, to include the following elements:

- Limiting the quantity of pending Maximo work orders for any given EMI campaign to rail car assets that will actually be modified over a standardized forecastable period.
- Designating ownership of Maximo work orders for ETP to the originating CENV staff member.
- Succession plan for pending ETP work orders to transfer responsibility in the event of CENV personnel changes.
- Periodic monitoring of CENV-generated Maximo work orders to assure adherence with these requirements.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the Required Action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Supervisor Review of Deferred Work Orders	Superintendents or Assistant Superintendents shall conduct a weekly check to verify Supervisors are reviewing deferred work orders for workability. CMNT will submit three months of completed audits.	Larry Skelton (CMNT)	05/01/18	08/12/18
2. PI Supervisor Review of Deferred Work Orders for Conclusion	Superintendents or Assistant Superintendents shall conduct weekly spot checks to verify PI Supervisors are reviewing deferred work orders for workability. CMNT will submit three months of completed audits.	Larry Skelton (CMNT)	05/01/18	08/12/18
3. Failure Data Tags	Superintendents or Assistant Superintendents shall conduct weekly spot checks to verify parts are properly tagged. CMNT will submit three months of completed audits.	Larry Skelton (CMNT)	05/01/18	08/12/18
4. Work Order Disposition	CENV will dispose of Maximo work orders for ETPs that have concluded, and EMIs that will not be implemented. CENV will submit a Maximo report indicating the number of open EMI and ETPs work orders.	Anthony Johnson (CENV)	05/01/18	10/03/18
5. Develop New SOP for Work Order Process	CENV will create and promulgate new procedure governing the lifecycle of Maximo work orders. CENV will periodically review all open ETP and EMI work orders for compliance with new procedure. CENV will submit new SOP.	Anthony Johnson (CENV)	04/17/18	05/30/18
6. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	10/03/18	10/31/18

Completion Documentation & Performance Measures

- 95 percent compliance as per actionable items 1-3 (CMNT).
- 95 percent compliance as per actionable item 5 (CENV).

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Parties

CMNT

Larry Skelton

 4-25-18
(Signature/Date)

CENV

Anthony Johnson

 4/25/18
(Signature/Date)

Second-Level Responsibility

CMO

John Doherty

 4-25-18
(Signature/Date)

RAIL

Andrew Off

 25 APR 18
(Signature/Date)

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review report regarding Metrorail Vehicle Maintenance & Engineering. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-RCM-18-04 and the associated finding(s).

Required Action**QICO-RCM-18-04** *Office of Car Maintenance (CMNT)**Elevated* 

Update and enforce established procedures to improve work quality and parts management.

Comply with the requirements established in CMNT Standard Operating Procedure (SOP) 2.10, including the proficiency and methodology reviews to be performed by the shop Superintendent and CMNT Assistant General Superintendent.

Applicable Finding(s)

- F-RCM-18-04: Implementation of a quality control plans is vital to ensure high quality work that conforms to the requirements.
 - o Measure: [Quality Control](#) Risk: [Service Delivery-- Elevated \(3,5\)](#).

Action Plan Overview

Car Maintenance (CMNT) Supervisors shall use the Car Maintenance Audit Form(s) to perform audits as required by CMNT Standard Operating Procedure (SOP) 2.10.

CMNT Superintendents shall review 100 percent of direct reports audits per month to assess their proficiency in providing constructive feedback on unsatisfactory audits per CMNT SOP 2.10.

CMNT Assistant General Superintendents (AGSs) shall review 10 percent of direct reports audits per month to assess their proficiency in providing constructive feedback on unsatisfactory audits per CMNT SOP 2.10.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Maintenance Quality Audits	Supervisors shall perform and document audits per CMNT SOP 2.10. CMNT will submit two months of completed audits per Supervisor per shop.	Larry Skelton (CMNT)	05/01/18	07/18/18
2. Maintenance Audit Supervisory Quality Control Checks	Superintendents or Assistant Superintendents shall review and document all direct reports' audits per month to assess their proficiency and document their audits on a spreadsheet. CMNT will submit the audit spreadsheet for two months.	Larry Skelton (CMNT)	05/01/18	07/18/18
3. Maintenance Audit Superintendent Quality Control Checks	Assistant General Superintendent(s) shall perform reviews required per CMNT SOP 2.10 and document their results on a spreadsheet. CMNT will submit the spreadsheets for a three month period.	Larry Skelton (CMNT)	05/01/18	08/15/18
4. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO)	08/15/18	9/12/18

Completion Documentation & Performance Measures

- 95 percent Compliance as per actionable items 1-3.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

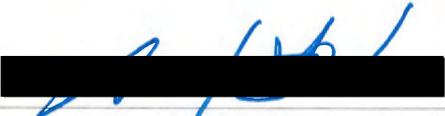
INTERNAL CORRECTIVE AND PREVENTIVE ACTION (iCAPA)

QICO-RCM-18-04

Responsible Party

CMNT

Larry Skelton



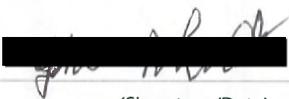
4-25-18

(Signature/Date)

Second-Level Responsibility

CMO

John Doherty



4-25-18

(Signature/Date)

RAIL

Andrew Off



25 APR 18

(Signature/Date)

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review report regarding Metrorail Vehicle Maintenance & Engineering. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-RCM-18-05 and the associated finding(s).

Required Action**QICO-RCM-18-05** *Office of Car Maintenance (CMNT)**Low* 

Update and enforce established procedures to improve work quality and parts management.
Comply with the requirements prescribed in CMNT Standard Operating Procedure (SOP) 1.08, Shelf Life Management.
Establish procedures to identify, tag, and organize parts stored on the shop floor as well as housekeeping and workplace organization including implementation and periodic reviews.

Applicable Finding(s)

- F-RCM-18-05: Establishing concise parts management and workplace organization requirements are vital for safe and reliable operations.
 - o Measure: [Work Standards](#) Risk: [Safety--Low \(2,4\)](#).

Action Plan Overview

Car Maintenance (CMNT) Superintendents shall implement a Shelf Life Management Program and verify the Shelf Life Inspection Checklist is used to perform, at a minimum, quarterly shelf life audits per CMNT SOP 1.08.
CMNT Superintendents or Assistant Superintendents shall ensure all components of rail vehicles stored at the shop floor level are properly identified (tagged) as either serviceable, unserviceable or warranty parts.
CMNT Superintendents or Assistant Superintendents shall conduct a weekly spot checks to verify these requirements are in compliance and document these audits on a spreadsheet.
The result of the Superintendent's spot check audits shall be submitted to the respective Assistant General Superintendent.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Shelf Life Management Quality Control	Superintendents or Assistant Superintendents shall perform quarterly shelf life checks of products. CMNT will submit two quarterly management audits per shop.	Larry Skelton (CMNT)	05/01/18	01/02/18
2. Rail Vehicle Parts on Shop Floor	Superintendents or Assistant Superintendents shall conduct weekly spot checks to verify parts on the shop floor are properly tagged. CMNT will provide three months of completed audits.	Larry Skelton (CMNT)	05/01/18	09/05/18
3. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	01/03/19	02/06/19

Completion Documentation & Performance Measures

- 95 percent compliance as per actionable items 1 and 2.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Parties

CMNT

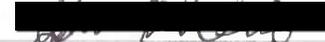
Larry Skelton

 4-25-18
(Signature/Date)

Second-Level Responsibility

CMO

John Doherty

 4-25-18
(Signature/Date)

RAIL

Andrew Off

 25 APR 18
(Signature/Date)

Purpose and Scope

On March 9, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review report regarding Metrorail Vehicle Maintenance & Engineering. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-RCM-18-06 and the associated finding(s).

Required Action

QICO-RCM-18-06 *Office of Car Maintenance (CMNT)*

Low 

Establish shop specific metrics to improve maintenance performance and Maximo data collection.

Establish shop specific metrics and indicators that reflects the actual work being done within the shops and utilize them within sound management routines to drive improvement.

Applicable Finding(s)

- F-RCM-18-06: Developing methods to assess reliability of work performed at the shop floor level will help drive performance improvements and establish fleet comparison metrics.
 - o Measure: [Work Measurement](#). Risk: [Service Delivery--Low \(2,4\)](#)

Action Plan Overview

Car Maintenance (CMNT) General Superintendent shall establish a working relationship with Reliability Engineering and Performance Analysis (REPA) office to develop rail vehicle shop specific metrics. Currently, these metrics are not being produced to identify rail vehicle series assigned to the shop level.

Reliability metrics for rail vehicle fleets are being discussed during the bi-weekly CMNT staff meetings. Once these shop specific metrics become available, the CMNT General Superintendent will task each CMNT Superintendent to share this information with the shop workforce and documented a daily safety briefing sign-in sheets.

Business Impact - Budget/Cost Estimate

Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Key Performance Indicator (KPI) Development and Distribution	CMNT GS shall establish a working relationship with REPA to establish KPIs for each shop. Superintendents or Assistant Superintendents shall brief these KPIs at the safety meetings. CMNT will provide three sign-in sheets, per shift, indicating KPIs were discussed at safety meetings.	Larry Skelton (CMNT)	05/01/18	11/07/18
2. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	11/07/18	12/05/18

Completion Documentation & Performance Measures

- CMNT will provide three months of KPI Reports.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Party

CMNT

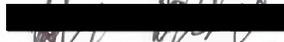
Larry Skelton

 4-25-18
(Signature/Date)

Second-Level Responsibility

CMO

John Doherty

 4-25-18
(Signature/Date)

RAIL

Andrew Off

 25 APR 18
(Signature/Date)

METRORAIL VERTICAL TRANSPORTATION: ELEVATOR MAINTENANCE AND INSPECTIONS iCAPAs

Purpose and Scope

On April 5, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review of the Office of Elevators and Escalators: Elevators. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-ELES-18-01 and the associated finding.

Required Action

QICO-ELES-18-01

*Office of Elevator and Escalator Services (ELES)**Overall Risk – Moderate (3,3)* 

Required Action: Identify opportunities to update the methodology for managing certification of all assets; include methods to ensure documentation is readily available on the System Asset Map.

Applicable Finding

- F-ELES-18-01: Readily available elevator certificates of inspection are vital for the safe and reliable delivery of elevator services to customers.
 - o Measure: [Regulations & Oversight](#) Risk: [Legal & Compliance – Moderate \(3,3\)](#)

Action Plan Overview**PLAN OVERVIEW**

ELES will improve scheduling and implement a robust process to address past due inspections. ELES will modify monthly maintenance checklists to confirm valid inspection certificates are available on the system asset map.

Business Impact - Budget/Cost Estimate

- **Process Improvement** – A current process/procedure needs to be optimized to address the Required Action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. ELES Annual Inspection Scheduling	Revise 212-SOP-30 to include annual inspection scheduling of assets in Maximo before certificate expiration dates and to allow ample time for potential repairs and jurisdictional delays. Submit revised SOP.	Madhavan Kozhipurath (ELES)	05/01/18	06/06/18
2. Certificate of Inspection Availability	Revise monthly preventative maintenance (PM) checklist to add item for elevator certificate availability on system asset map. ELES Engineering to upload most-current, valid certificates to system asset map. Submit revised monthly PM checklist and matrix of certificate uploads.	Rolando Grimaldi (ELES) Madhavan Kozhipurath (ELES)	05/01/18	10/03/18
3. Safety Work Order (SWO) Completion	ELES inspections group in conjunction with maintenance will craft and implement a plan to address the back log of SWOs and inspection compliance with 212-SOP-30. Submit inspections tracking matrix.	Madhavan Kozhipurath (ELES) Rolando Grimaldi (ELES)	05/01/18	05/01/19
4. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	05/06/19	05/17/19

Completion Documentation & Performance Measures

- 100 percent of valid certificates uploaded to system asset map confirmed by QICO follow-up activities in relation to actionable item 2.
- 100 percent of re-inspections completed 30 days from the creation of SWOs in relation to actionable item 3.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Parties

ELES Madhavan Kozhipurath [Redacted Signature] 4/26/18
(Signature/Date)

ELES Rolando Grimaldi [Redacted Signature] 4/26/18
(Signature/Date)

ELES Mitchell Nici [Redacted Signature] 4/26/18
(Signature/Date)

Second-Level Responsibility

SSRV Randall Grooman [Redacted Signature] 4/28/18
(Signature/Date)

Purpose and Scope

On April 5, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review of the Office of Elevators and Escalators: Elevators. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-ELES-18-02 and the associated findings.

Required Action

QICO-ELES-18-02 *Office of Elevator and Escalator Services (ELES)*

Overall Risk – Elevated (4,4) 

Required Action: Identify opportunities to implement established safety procedures that mitigate job hazards.

Applicable Findings

- F-ELES-18-02: Compliance with Lock Out / Tag Out (LOTO) procedures minimizes job hazards and assures safe working conditions.
 - o *Measure: Job Safety Risk: Safety – Moderate (3,4)*
- F-ELES-18-07: Maintaining work areas free of trash and debris encourages a positive work environment and reduces job hazards.
 - o *Measure: Application & Fulfillment Risk: Safety – Elevated (4,4)*

Action Plan Overview

PLAN OVERVIEW

ELES will revise safety procedures, create checklists and install equipment to improve compliance with current departmental standards.

Business Impact - Budget/Cost Estimate

- **Process Improvement** – A current process/procedure needs to be optimized to address the Required Action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Update LOTO Standard Operating Procedure (SOP)	Update SOP 212-23-6.14(d) to change "locations" to "station." Train active field personnel on revised policy. Submit updated SOP and signed acknowledgments from active field personnel.	Rolando Grimaldi (ELES)	05/09/18	07/09/18
2. Install LOTO Stations	Install at least one LOTO station at every rail station as per the revised SOP 212-23-6.14(d). Submit spreadsheet of install locations.	Rolando Grimaldi (ELES)	05/01/18	08/01/18
3. ELES Materials Storage Policy Reinforcement	Reinforce policy 212-SOP-35 2.2.02-5.6 through toolbox meetings. Submit signed acknowledgments from active field personnel.	Rolando Grimaldi (ELES)	05/09/18	07/09/18
4. Housekeeping Checklist	Create housekeeping checklist to be posted at all non-public locations containing ELES materials. Submit checklist and list of locations where checklist is posted.	Rolando Grimaldi (ELES)	05/01/18	08/01/18
5. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	08/06/18	08/17/18

Completion Documentation & Performance Measures

- 95 percent of active personnel acknowledge updated LOTO procedures.
- 95 percent of active personnel acknowledge ELES materials storage policy.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Parties

ELES

Rolando Grimaldi



4/26/18

(Signature/Date)

ELES

Mitchell Nici



4/26/18

(Signature/Date)

Second-Level Responsibility

SSRV

Randall Grooman



4/28/18

(Signature/Date)

Purpose and Scope

On April 5, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review of the Office of Elevators and Escalators: Elevators. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-ELES-18-03 and the associated findings.

Required Action

QICO-ELES-18-03

Office of Elevator and Escalator Services (ELES)Overall Risk – Moderate (3,4)

Required Action: Review and update the MCP to reinforce established SOPs, assure accurate management and availability of records.

Applicable Findings

- F-ELES-18-03: Availability of maintenance records in accordance with the ELES Maintenance Control Policy (MCP) is essential for consistency and traceability of maintenance activities.
 - o Measure: Document Control Risk: Service Delivery – Moderate (3,4)
- F-ELES-18-04: Accuracy of the MCP assures consistency of maintenance processes and increases asset reliability.
 - o Measure: Document Control Risk: Service Delivery – Moderate (3,4)
- F-ELES-18-05: Consistent and accurate capture of work order data in Maximo is essential to effective monitoring, tracking, and analysis of completed maintenance.
 - o Measure: Data Assurance Risk: Service Delivery – Moderate (3,4)
- F-ELES-18-06: Logbook recordkeeping in accordance with regulatory code A17.1 assures onsite availability of and access to maintenance history.
 - o Measure: Data Assurance Risk: Service Delivery – Elevated (4,3)

Action Plan Overview**PLAN OVERVIEW**

ELES will correct typographical errors in the hydraulic elevator maintenance control policy and distribute replacement pages to field employees. ELES will update procedures to address limited maintenance work orders remaining open after repairs have been completed. Reinforce the policy requiring logbook completion.

Business Impact - Budget/Cost Estimate

- **Process Improvement** – A current process/procedure needs to be optimized to address the Required Action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Revise Hydraulic Elevator Maintenance Control Policy (MCP)	Correct typographical errors and remove unrelated content from work instructions in the hydraulic elevator MCP. Submit revised document.	Rolando Grimaldi (ELES)	05/09/18	07/11/18
2. ELES Repair Records Management	Update the elevator operations control (EOC) SOP to include work order quality records check to account for proper handling of limited maintenance (LM) work orders. Train active EOC staff on the updated procedures. Submit the revised SOP and signed acknowledgments of EOC staff members.	Rolando Grimaldi (ELES)	05/01/18	08/01/18
3. Assure Logbook Completion	Have technicians complete kiosk logbooks with maintenance and repair information in accordance with SOP 212-19 6.1. Submit a supervisor quality audit from each region.	Rolando Grimaldi (ELES)	05/09/18	10/10/18
4. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	1/25/19	02/06/19

Completion Documentation & Performance Measures

- 95 percent of active EOC staff acknowledge updated procedures included as part of actionable item 2.
- 95 percent compliance of logbook record completion as part of actionable item 3.

Responsible Parties

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

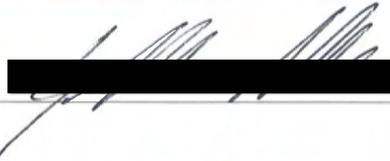
³ Est End – Estimated Completion Date.

INTERNAL CORRECTIVE AND PREVENTIVE ACTION (iCAPA)

QICO-ELES-18-03

ELES

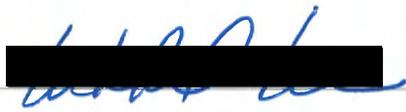
Rolando Grimaldi



4/26/18
(Signature/Date)

ELES

Mitchell Nici



4/26/18
(Signature/Date)

Second-Level Responsibility

SSRV

Randall Grooman



4/28/18
(Signature/Date)

Purpose and Scope

On April 5, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review of the Office of Elevators and Escalators: Elevators. This internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-ELES-18-04 and the associated finding.

Required Action

QICO-ELES-18-04

Office of Elevator and Escalator Services (ELES)Overall Risk – Moderate (3,3)

Required Action: Verify Franconia-Springfield garage elevators J03X04, J03X05 and J03X06 programmable logic controllers (PLCs) meet capital improvement project (CIP) acceptance measures and confirming all WMATA requirements are met.

Applicable Finding

- F-ELES-18-08 Enforcing established measures for approving rehabilitated equipment is vital to improved asset performance and integration with WMATA systems.
 - o *Measure: Quality Control Risk: Service Delivery – Moderate (3,3)*

Action Plan Overview**PLAN OVERVIEW**

ELES is working with the elevator installation contractor to resolve reliability issues and conform to WMATA standards.

Business Impact - Budget/Cost Estimate

- **Process Execution** – A current process/procedure exists that meets the FTA Required Action, but needs to be executed. This type of initiative does not need additional resources.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Establish Proper Programmable Logic Controller (PLC) Reporting Functions	Have contractor repair PLC per design specification. ELES inspector will confirm PLC properly reports faults with a date and timestamp. Contractor inspector to provide report to ELES. Submit both ELES and contractor reports.	Cedric Watson (ELES)	05/01/18	09/05/18
2. QICO QA of PLC Function	QICO will confirm PLC properly reports faults with a date and timestamp. Submit verification report.	QICO	09/05/18	10/05/18
3. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	10/08/18	10/22/18

Completion Documentation & Performance Measures

- Conformation that all three PLCs were repaired and operate within the design specifications.

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Responsible Parties

ELES

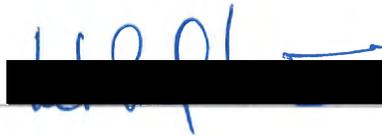
Cedric Watson



4/26/18
(Signature/Date)

ELES

Mitchell Nici



4/26/18
(Signature/Date)

Second-Level Responsibility

SSRV

Randall Grooman



4/26/18
(Signature/Date)

METRORAIL AFCS INSPECTION AND MAINTENANCE iCAPAs

Purpose and Scope

On April 5, 2018, the Office of Quality Assurance, Internal Compliance & Oversight (QICO) issued an internal review report regarding the Automatic Fare Collection Section (AFCS). This Internal Corrective and Preventive Action (iCAPA) has been developed to address required action QICO-AFCS-18-01 and the associated finding(s).

Required Action

QICO-AFCS-18-01

Systems Maintenance (SMNT)

Moderate



Review and update MCP in accordance with current business practices: reflecting improved quality control standards, consistent maintenance practices, and accurate asset reliability reporting.

Applicable Finding(s)

- F-AFCS-18-01: Development of preventative maintenance Standard Operating Procedures (SOPs) and related work instructions will promote consistency of maintenance and inspection performance resulting in improved asset reliability.
 - o Measure: [Work Standards](#). Risk: [Service Delivery – Moderate \(3,3\)](#)
- F-AFCS-18-02: An up-to-date Maintenance Control Policy (MCP) that includes guiding information (e.g. definitions, job aids, & flow charts) for current processes establishes clearly defined roles and responsibilities for AFCS personnel.
 - o Measure: [Work Standards](#). Risk: [Service Delivery – Low \(2,4\)](#)
- F-AFCS-18-03: Consistent and accurate capture of work order data in Maximo is essential to effective monitoring, tracking, and analysis of maintenance tasks performed.
 - o Measure: [Data Assurance](#). Risk: [Service Delivery – Moderate \(3,3\)](#)
- F-AFCS-18-04: Utilization of a formal Quality Control Plan (QCP) is essential to assure the consistency and reliability of work being performed.
 - o Measure: [Work Standards](#). Risk: [Service Delivery – Moderate \(3,3\)](#)

Action Plan Overview

AFCS will create Preventive Maintenance Procedures to replace the current PMI Checklists and update Maintenance Control Policy.

AFCS personnel will review and update WO problem/cause/remedy codes and other data inconsistencies and will eliminate the use 'Out of Service' or 'Won't Go/Stay in Service' as WO Problem Codes.

AFCS will conduct tool box meeting to communicate updated WO problem codes to maintenance personnel.

All technicians will complete PMI checklists for recordkeeping purposes.

AFCS will revise Weekly Activity Report checklist and shift supervisors will note in their Weekly Activity Reports their Maximo QC checks/inspections. All documents will be saved for recordkeeping purposes.

Business Impact - Budget/Cost Estimate

- Process Improvement – A current process/procedure needs to be optimized to address the required action. This type of initiative does not need additional resources because current manpower will be used to improve the process.

PLAN STRUCTURE

Actionable Items	Description	Responsible Party ¹	Est Start ²	Est End ³
1. Preventative Maintenance Standard Operating Procedures (SOP)	AFCS will develop preventative maintenance procedures for all AFCS assets and distribute a staff notice on the implementation of the new SOPs into maintenance practices resulting in improved asset reliability. AFCS will provide new preventative maintenance procedures for PM activities and staff notice.	Gairy Johnson SMNT	05/02/18	08/01/18
2. Revise Maintenance Control Policy (MCP)	AFCS will review and revise Maintenance Control Policy to define the roles and responsibilities of AFCS personnel as well as include process guidelines and the appropriate problem codes to be used in Maximo. AFCS will provide the revised MCP.	Gairy Johnson SMNT	05/02/18	12/05/18
3. Maximo Work Order Problem Codes	AFCS will eliminate the use of "Out of Service" and "Won't Go/Stay in Service" as work order problem codes so that AFCS personnel accurately and consistently enter the correct problem/cause/remedy codes in Maximo. AFCS will submit Maximo corrective maintenance work order reports for the three months following implementation of new Maximo problem/cause/remedy codes.	Gairy Johnson SMNT	05/02/18	08/01/18
4. Quality Control Plan (QCP)	AFCS will develop a QCP to include a revision of the current Weekly Activity Report checklist and review of completed PMI checklists ensuring consistent maintenance performance. All documents will be saved for recordkeeping purposes. AFCS will submit QCP.	Gairy Johnson SMNT	05/02/18	08/01/18
5. Toolbox Meeting	AFC will conduct Maximo toolbox meeting with maintenance personnel to communicate the requirements for Maximo work order problem code entries. AFCS will submit toolbox meeting notes and sign-in sheets.	Gairy Johnson SMNT	08/01/18	09/05/18
6. QICO CAP Verification Report	QICO will evaluate actionable items submitted to confirm there is reasonable evidence that the findings and this required action have been resolved, taking into account the actionable item descriptions and performance measures.	QICO	12/05/18	01/02/19

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² Est Start – Estimated Start Date.

³ Est End – Estimated Completion Date.

Completion Documentation & Performance Measures

- Evidence of developed SOPs and MCP as prescribed under actionable item numbers 1, 2, & 4.
 - Toolbox meeting notes and sign in sheets demonstrating evidence of discussion regarding Maximo problem code entries as prescribed under actionable item #5.
-

Responsible Parties

SMNT

Gairy Johnson

[Redacted Signature]

4/26/18

(Signature/Date)

Second-Level Responsibility

SSRV

Randall Grooman

[Redacted Signature]

4/26/18

(Signature/Date)