

**ANNUAL COMPLIANCE  
REPORT FOR 2022 -  
Regulatory Monitor and  
Compliance Officer –  
Ottawa Light Rail Transit**



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For City of Ottawa**

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## **1. Executive Summary:**

In accordance with the Delegation Agreement signed between the City of Ottawa and the Minister of Transport in 2011, the City appointed the Regulatory Monitor and Compliance Officer (RMCO) in 2018 to perform regulatory compliance monitoring for the Confederation Line following revenue service inception.

The specific duties and responsibilities established by the City for the RMCO are provided in Annexes 2 and 3, while the regulatory context is provided in Annex 9. As such, the RMCO is responsible to monitor compliance relative to City LRT Regulations (refer to Annex 4) which identify the following responsibilities for OC Transpo:

- Adopt and Implement designated ‘OCT Programs’;
- Provide Direction and Oversight to OC Transpo employees and contractors;
- Maintain Program related Records;
- Require contractors to Implement and follow substantially consistent Programs.

Following revenue service inception in September 2019, the RMCO started to perform regulatory monitoring activities using a risk-based approach.

During 2022, the RMCO monitored the following areas:

- 1) Inspection activities related to light rail vehicles (LRV’s), track and catenary;
- 2) Security Management System.

The first area was previously monitored in 2020, but given its importance and the mixed findings obtained in 2020, it was decided to revisit this area to assess progress.

This document constitutes the fourth RMCO Annual Compliance Report which describes the specific areas which were monitored during 2022, including the work that was undertaken to verify compliance, as well as the compliance assessment findings for each area monitored.

The monitoring findings for 2022 are provided in Sections 5 and 6 of this Report. In summary, the monitoring activities identified generally strong compliance results for OC Transpo, however opportunities were identified to strengthen Oversight relative to contractors in both areas monitored. This was corroborated by the RMCO’s monitoring of contractors which identified mixed findings relative to the implementation of designated Programs, thereby indicating that OC Transpo can strengthen contractor Oversight for such Programs in accordance with City LRT Regulations.

This Annual Compliance Report will be submitted for review at the Transit Commission and City Council meetings which will be held during April 2023.

## **2. Background:**

On July 14, 2011, Ottawa City Council approved the implementation of the Ottawa Light Rail Transit (OLRT) project which is considered in law to be a federal rail transportation undertaking.

Since federal legislation was not developed for application to municipal light rail systems, the City of Ottawa was provided with the authority to regulate its light rail transit system. This was formalized with an agreement between the Minister of Transport and the City of Ottawa on October 1, 2011, known as the 'Delegation Agreement'.

In accordance with the Delegation Agreement, and By-Law No. 2015 – 301, the position of 'Light Rail Regulatory Monitor and Compliance Officer' (i.e. 'Regulatory Monitor and Compliance Officer – RMCO') was created to monitor and report on compliance with the OLRT Regulations (i.e. City LRT Regulations). Further details on the background are provided in Annex 1.

The RMCO is tasked with performing regulatory compliance monitoring post-revenue service; specific duties and responsibilities are provided in Annexes 2 and 3, while the regulatory context is provided in Annex 9.

Below are some important elements relative to RMCO duties and responsibilities:

- The RMCO is responsible for regulatory compliance monitoring for the Confederation Line (i.e. does not include Trillium line, bus transit or other OC Transpo operations);
- The compliance monitoring relates primarily to City LRT Regulations and the designated 'OCT Programs' relating to safety and security;
- The RMCO was not involved in the construction, implementation or revenue service availability activities for the Confederation Line;
- The RMCO regulatory monitoring activities started after revenue service;
- The RMCO performs monitoring on an ongoing basis and provides quarterly updates to the City Manager as well as annual reports to the Transit Commission and City Council;
- The RMCO does not have the authority or duty to assess the adequacy, sufficiency, or effectiveness of City LRT Regulations, Programs or the Confederation Line infrastructure / equipment / technology.

One of the early RMCO responsibilities consisted of developing a multi-year Work Plan for carrying out compliance monitoring relative to City LRT Regulations – this was submitted to City Council and approved on September 12, 2018.

Subsequently, following revenue service inception in September 2019, the RMCO started to perform regulatory monitoring activities which have been carried out annually since that date.

In early 2021 the RMCO monitoring process was further aligned with City LRT Regulations which were formalized through the document entitled 'City Manager Designation – Light Rail Regulations' dated 12 February 2021; a relevant excerpt is provided in Annex 4.

Overall, the following areas have been monitored by the RMCO since revenue service inception:

- 1) Training and certification of employees involved in the movement of trains and LRV's (Q4-2019);
- 2) Inspection and repair activities related to track (Q2-Q3 2020);
- 3) Inspection and repair activities related to light rail vehicles (LRV's) - (Q3-Q4 2020);
- 4) Inspection and repair activities related to the catenary (Q3-Q4 2020);
- 5) Safety Management System (Q2-Q3 2021);
- 6) Emergency Management Processes (Q3-Q4 2021);
- 7) Revisit inspection activities related to LRV's, track and catenary (Q2-Q3 2022);
- 8) Security Management System (Q4 2022).

As mentioned above, RMCO responsibilities require the preparation of an Annual Compliance Report which describes regulatory monitoring activities undertaken as well as findings identified – this document constitutes the fourth Annual Compliance Report which presents monitoring activities performed in 2022 as well as the corresponding findings.

This Annual Compliance Report also provides information on the RMCO monitoring approach (refer to Section 3) which is based on City LRT Regulations and monitoring experience to date, thus supplementing the information provided in the Work Plan.

To further assist readers with a proper review of this Report, please refer to Annex 9, which provides guidance regarding the limits on the scope of the RMCO's monitoring work; the monitoring and oversight work carried out and confirmed by others; and the coordinated interplay between these various oversight functions.

### **3. Regulatory Monitoring Approach:**

#### **3.1 Summary - Process for RMCO Regulatory Monitoring:**

The RMCO monitoring process is designed to perform monitoring activities in an objective manner while engaging stakeholders such that they understand the process and have the time and opportunity to provide the necessary information and resources.

Monitoring is carried out using a fact and evidence-based approach, coupled with principles of transparency, structure and engagement.

Moreover, the monitoring approach is anchored on the following elements:

- The selection of regulatory Programs to be monitored is risk-based with several inputs / considerations which are described in Subsections 3.2 - 3.4 of this Report;
- To maintain a structured and consistent approach for monitoring, specific procedures are developed for each area to be monitored, thus providing clear expectations for all stakeholders;
- Monitoring procedures are designed to obtain objective evidence to enable the assessment of regulatory compliance using a fact and evidence-based approach. Objective evidence is gathered through the review / analysis of documents and records, interviews and field visits;
- As explained in Section 2 of this Report, the RMCO monitoring process is aligned with City LRT Regulations (i.e. 'City Manager Designation'). The City LRT Regulations (specifically Appendix B Section 1) reaffirm the responsibility for OC Transpo to Adopt and Implement specific Programs, including providing Direction and Oversight, and maintaining Records. With respect to contractors, their obligations are based on contractual agreements as well as OC Transpo Direction – this includes the need for contractors to Adopt and Implement substantially consistent Programs relative to the 'OCT Programs' identified in the City LRT Regulations.
- The RMCO develops and communicates monitoring plans prior to the inception of monitoring to enable stakeholders to understand expectations, to provide the requested information, and to allocate resources required for monitoring.

Further details are provided in the following Subsections.

### **3.2 Monitoring Focus on City LRT Regulations:**

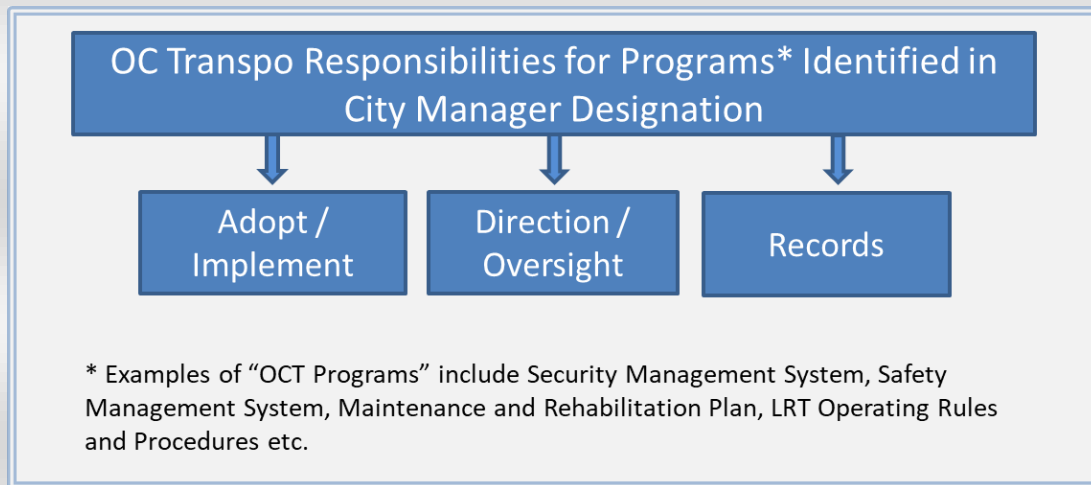
As explained in Section 2 of this Report, the RMCO monitoring approach is aligned with City LRT Regulations.

Specifically, the City LRT Regulations identify the following key responsibilities for OC Transpo (refer to Annex 4):

- Adopt and Implement designated ‘OCT Programs’ (identified in Appendix B Part 1.3 of the City Manager Designation);
- Provide Direction and Oversight to OC Transpo employees and contractors;
- Monitor, maintain Program-related Records and provide access to these Records;
- Require contractors to Implement and follow substantially consistent Programs – to the extent relevant to their assigned work.

Therefore, RMCO monitoring activities focus primarily on assessing compliance relative to the above noted OC Transpo responsibilities – this is outlined in the Figure below. Further, the RMCO’s mandate is focused on OCT Programs relating to safety and security.

**Figure 1 – Overview of OC Transpo Regulatory Responsibilities Relative to Designated Programs**



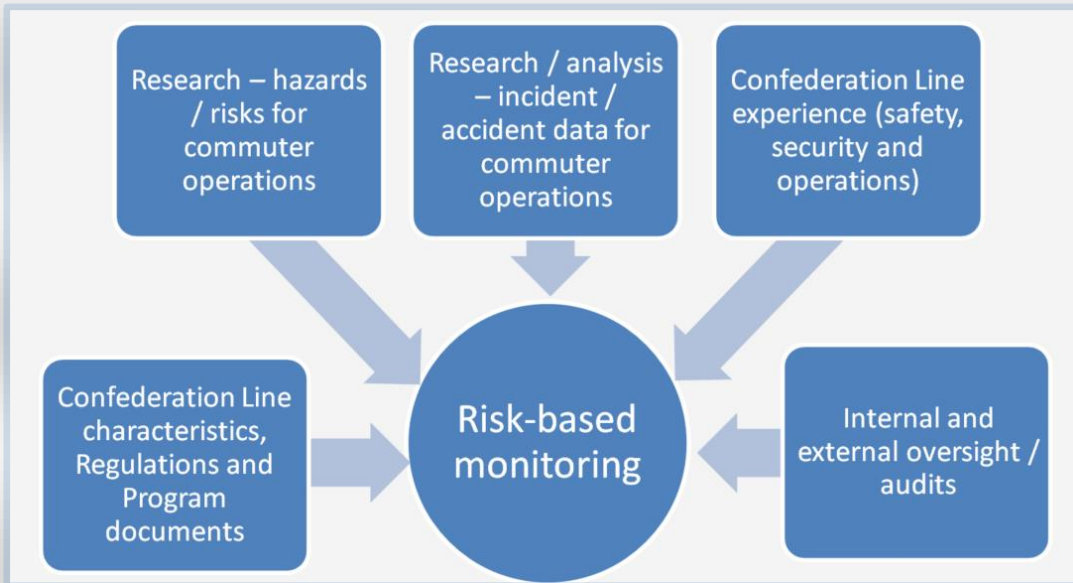
As such, RMCO monitoring activities encompass both OC Transpo and contractors. The reason that contractor activities are monitored is to cross check and assess whether OC Transpo has implemented designated Programs; has provided appropriate Direction and Oversight to the contractors regarding these Programs; and that appropriate Program-related Records are being maintained. This inherently provides an understanding of whether contractors are conforming to contractual requirements for the areas monitored.

Moreover, it is important to clarify that the responsibilities identified in the LRT Regulations apply to OC Transpo, whereas contractor obligations are associated with their contractual agreements.

### **3.3 Risk-Based Monitoring:**

In accordance with the multi-year Work Plan, a risk-based approach is used to select regulatory Programs / areas to be monitored using the information shown in the Figure below:

**Figure 2:**



The risk-based approach uses the following key inputs:

- 1) Research relative to hazards and risks for commuter operations;
- 2) Research and analysis relative to incident / accident data for commuter operations;
- 3) Consideration for Confederation Line characteristics (e.g. technology and infrastructure) as well as Regulations and Programs;
- 4) Consideration for Confederation Line experience (e.g. incidents / accidents, service issues etc.);
- 5) Consideration for internal and external Oversight / monitoring activities and their respective findings (e.g. RMCO monitoring, OC Transpo Oversight) as well as audits and investigations.

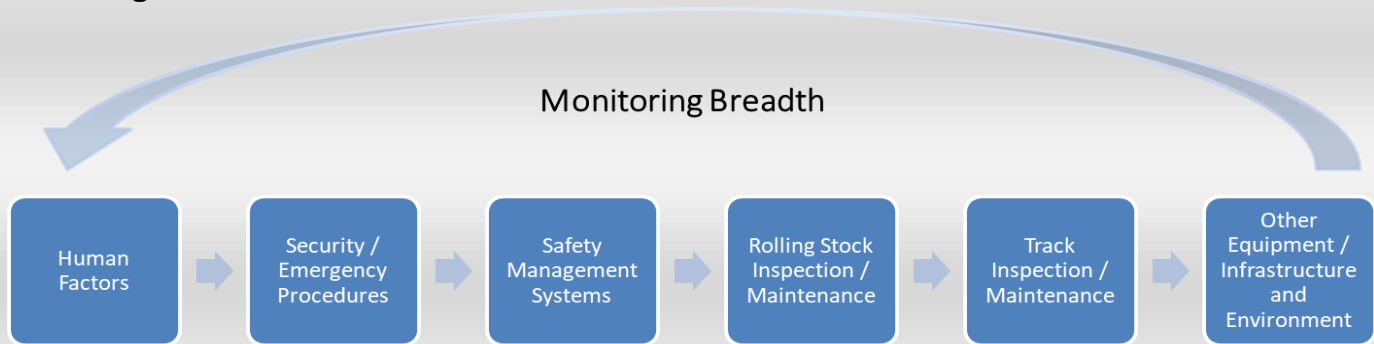
The consideration of multiple inputs, as outlined above, contributes to the selection of regulatory Programs / areas for monitoring which have the greatest potential impact on safety and security, thus complementing the City's efforts to achieve the highest possible level of safety and security.



### **3.4 Monitoring Breadth:**

In accordance with the RMCO duties and responsibilities provided by the City (refer to Annexes 2 and 3), regulatory Programs relating to safety and security are monitored on an ongoing basis using a risk-based approach. The following risk areas are considered in the selection process of regulatory Programs to be monitored:

**Figure 3:**



In order to maintain a broad perspective in the selection of regulatory Programs to monitor, the RMCO considers the hazard / risk areas identified in the Work Plan (refer to Annex 5 of this Report and the Figure above) to progressively monitor Programs in each of these categories thereby achieving a broad compliance picture over time.

In light of the nature of City Regulations, it is to be noted that each risk area identified in the above Figure corresponds to specific OCT Programs referenced in the City LRT Regulations. Further, each risk area may contain different OCT Programs and associated documents which require progressive monitoring over several segments. For example, the Human Factors risk area inherently encompasses OCT Programs and associated materials such as 'LRT Operating Rules and Procedures', 'Safety Management System' and 'Standard Operating Procedures' etc. Thus, the segment monitored during Q4 2019 relates to one such subcategory (i.e. Training related to 'LRT Operating Rules and Procedures'), within the broader human factors category, and is therefore the first step in progressively monitoring this risk area and the associated Programs and documents.

This approach provides compliance assessment knowledge which increases incrementally as monitoring progresses, and represents a practical approach to achieving broad monitoring breadth over time.

It is important to recognize that this progressive monitoring and compliance assessment approach used by the RMCO is to be distinguished from audits in the following respects:

- Audits typically encompass both compliance monitoring as well as the identification / assessment of risks, adequacy of controls, governance etc., whereas the RMCO mandate consists primarily of monitoring compliance relative to City LRT Regulations and designated Programs;
- As stated in Section 2 and Annex 3 of this Report, the RMCO mandate does not encompass the assessment of the adequacy, sufficiency, or effectiveness of OCT Programs or City Regulations;

The RMCO scope does not include conducting audits.

## **4. Regulatory Monitoring Overview for 2022:**

As explained in Section 3 of this Report, the selection of regulatory Programs / areas to be monitored is based on two key considerations:

- a) A risk-based approach is used through the review of key inputs identified in Subsection 3.3;
- b) Monitoring is distributed over the six key risk areas identified in Subsection 3.4 to achieve adequate coverage over time.

This approach ensures that RMCO monitoring activities are prioritized in a manner which corresponds to potential risks relating to safety and security, while progressively monitoring all six key areas to achieve the full risk breadth and to provide the City with knowledge relative to regulatory compliance for all such areas and associated regulatory Programs.

Thus, at the start of 2022, the following areas were identified for monitoring using a risk-based approach:

- 1) Inspection activities related to light rail vehicles (LRV's), track and catenary (monitoring performed Q2-Q3 2022);
- 2) Security Management System (monitoring performed Q4 2022).

The first area was previously monitored in 2020, but given its importance and the mixed findings obtained in 2020, it was decided to revisit this area to assess progress.

The second area was included in the 2022 monitoring plan because it is a specific Program identified in the City Manager Designation, but this Program was not monitored by the RMCO up to that point in time because it was audited by an external Firm in 2020 as part of OC Transpo's tri-annual audit requirements.

The next Sections of this Report describe the monitoring process and findings for each of the two areas monitored in 2022.

## **5. Monitoring - Inspections of Track, LRV, and Catenary:**

### **5.1 Background on Inspections of Track, LRV and Catenary:**

Prior to describing the RMCO monitoring process, it is important to provide background and context relative to inspections of track, LRV and catenary.

#### **5.1.1 Program Documents and Technical Documents:**

The key 'OCT Program' document identified in the City Regulations which specifies requirements for inspections of track, LRV and the catenary is the 'Maintenance and Rehabilitation Plan' (RTM-MC-PLN-042). This Program document is supplemented by a number of additional technical documents which provide further detail on inspection requirements as well as procedures for such inspections – the key documents provided to the RMCO relative to track, LRV and catenary inspections are as follows:

- a) Maintenance and Rehabilitation Plan (RTM-MC-PLN-042);
- b) RTM Asset Management Plan (RTM-MC-PLN-459);
- c) Alstom Asset Management Plan (ENG-SV-OTT-PRO-001);
- d) Track Safety and Inspection Rules (RTM-ENG-RUL-132);
- e) Alstom procedures for track Inspections (21 specific 'WMS' procedures);
- f) Alstom procedures for Catenary (i.e. OCS) Inspections (9 specific 'WMS' procedures);
- g) Training and Competency Plan (RTM-ADM-PLN-123).

In addition to the above, there are a number of Schedules and Parts in the Project Agreement (P.A.) which specify requirements for contractors relative to the inspections of track, LRV and the catenary – the P.A. is the basis for the contractual agreement between the City of Ottawa and RTG relative to the Confederation Line.

#### **5.1.2 RMCO Monitoring of this Area in 2020:**

It is important to point out that this area (i.e. inspections of track, LRV and catenary) was monitored by the RMCO in 2020. The Findings identified mixed conformance results, indicating that some inspection types were performed in accordance with requirements, while other inspection types were either partially or mostly conformant (refer to next Subsections). Therefore, this area was identified for follow-up monitoring in 2022 on the basis of the risk-based approach which underscored the importance of effective and complete inspections to achieve a safe and reliable operation. As such, the 2022 monitoring focus was on the inspection types which did not achieve full conformance in 2020, with the intent to provide visibility on the completeness of such inspections as well as progress made since the 2020.

A high level review of each inspection area is provided in the Subsections below.

### **5.1.3 Track Inspections:**

The track, also known as “guideway”, is inspected by Alstom employees called “guideway technicians”.

The following Figure is an image of the Confederation line showing typical sections of track, the catenary and an LRV:

**Figure 4 – Image Showing Typical Sections of Track, Catenary and LRV:**



There is a schedule of inspections which is performed to ensure that the track meets applicable Program and technical requirements identified in the documents enumerated in Subsection 5.1.1; specifically, Appendix B-4 of Alstom’s “Asset Management Plan” (ENG-SV-OTT-PRO-001) provides a table of track inspection requirements. The inspection schedule is mostly time-based with specific inspections which must be performed within specific time intervals; there are also tolerances identified for each inspection type which indicate the allowable time variance.

The inspection process is designed to verify the condition of specific track components and to identify potential defects / conditions which are either addressed immediately or logged for subsequent repairs, depending on the nature of the finding, its priority and the

scope of the required repair. As well, there are specific inspection requirements which are based on high / low temperatures, changes in temperature, as well as weather conditions such as precipitation and extreme weather. Further, there are specific maintenance requirements, such as switch greasing, which are performed in accordance with time-based and seasonal requirements irrespective of condition.

Although most inspections are performed by Alstom employees, certain specialized inspections, such as ultrasonic rail flaw detection, are subcontracted to companies which use specialized equipment and technologies.

During the RMCO's monitoring of track inspections performed in 2020, a total of 9 inspection types were monitored to assess whether such inspections were performed in accordance with Program requirements. Of the 9 inspection types monitored, 4 were fully conformant, while 3 were mostly conformant and the remaining 2 inspection types were partially conformant. The Figure below shows the inspection types which were not fully conformant:

**Figure 5 – Track Inspection Monitoring Findings (2020):**

Element Monitored	Company	Findings	Comments
D1 - Daily track inspections (MTN10-WMS 014)	ALSTOM	Partially Conformant	Records reviewed in GSI download of Feb. 25 account for about 60% of daily inspections required (70 of 120).
D2 - Twice per week track inspections (MTN10 -WMS-001)	ALSTOM	Mostly Conformant	Records reviewed in GSI download of Feb. 25 account for about 90% of such inspections. There are two periods of 2 weeks and four periods of 1 week with missing inspection records ("3D GWY MAINLINE VISUAL INSPECTION"); the missing records correspond mostly to the winter period.
D3 - Monthly track inspections (MTN10 - WMS-016)	ALSTOM	Mostly Conformant	Records reviewed in GSI download of Feb. 25 and subsequent data provided by Alstom show that most (about 90%) monthly track inspections were done with the exception of the January - February 2020 period ("1M TRK BMSF TRACK INSPECTION").
D5 - 1 Month turnout / crossover inspec. (MTN10 -WMS-002)	ALSTOM	Mostly Conformant	Records reviewed in GSI download of Feb. 25 and subsequent data provided by Alstom account for all such inspections, except 2 of 25 missing ( winter period) - ("1M TRK TURNOUT & CROSSOVER INSP").
D9 - Extreme weather inspections	ALSTOM	Partially Conformant	Records provided by Alstom show that 2 such inspections were performed since revenue service. A review of weather data identified 5 instances when criteria were met thus requiring such inspections (winter). Further, at the time of monitoring, such inspections were not entered as unique entries in GSI, but Alstom subsequently agreed to create unique entries.

In light of the above, the 2022 RMCO monitoring activities for track inspections focused on the 5 track inspection types which were not fully conformant, as follows:

- 1) Daily track inspections;
- 2) Twice per week track inspections;
- 3) Monthly track inspections;
- 4) Monthly turnout / crossover inspections;
- 5) Extreme weather inspections.

**5.1.4 LRV Inspections:**

Light Rail Vehicles are inspected by Alstom employees called “vehicle maintenance technicians”. There is a schedule of inspections which is performed to ensure that the LRV’s meet applicable Program and technical requirements – specifically, these requirements are identified in Appendix B-1 of the Alstom document entitled ‘Asset Management Plan’ (ENG-SV-OTT-PRO-001). Appendix B-1 identifies a number of mileage-based inspections which are designed to verify the condition of specific components and to identify defects / conditions which are either addressed immediately or logged for subsequent repairs, depending on the nature of the finding, its priority and the scope of the required repair. As well, the schedule includes specific maintenance requirements, such as wheel truing and gear box oil changes which are performed in accordance with mileage-based requirements irrespective of condition. Further, the above Alstom document identifies specific mileage-based tolerances within which the inspections must be performed.

During the RMCO’s monitoring of LRV inspections performed in 2020, the execution of mileage-based inspections was verified to determine if such inspections were performed within required mileages and tolerances. Findings showed that such inspections were mostly conformant, meaning that most, but not all, were performed within specified intervals and tolerances – this is summarized in the Figure below which indicates that some LRV inspections (about 10%) were performed beyond the required mileage intervals / tolerances, with most issues occurring during the first winter of operation (i.e. winter 2019 – 2020).

**Figure 6 - LRV Inspection Monitoring Findings (2020):**

Sub-Category	Element Monitored	Findings	Comments
D1 - LRV Inspections	LRV Inspection Data	<b>Mostly Conformant</b>	<ul style="list-style-type: none"> <li>A review of LRV inspection data shows that scheduled inspections are mostly performed within mileages specified in WMS procedures (e.g. 10K, 25K, 30K, 50K, 100K).</li> <li>However, some LRV inspections (about 10%) were done after the prescribed mileage <u>and</u> allowable tolerance. Most issues occurred during last winter.</li> </ul>

**5.1.5 Catenary Inspections:**

The Catenary, also known as ‘OCS’ (i.e. Overhead Catenary System), is inspected by Alstom employees called “power technicians”. There is a schedule of inspections which is performed to ensure that the catenary meets applicable Program and technical requirements – the schedule of inspections is specified in Appendix B-6 of Alstom’s ‘Asset Management Plan’ (ENG-SV-OTT-PRO-001). The inspection schedule is time-based with specific inspections which must be performed within specific time intervals and tolerances identified in the above Alstom document.

Inspections are designed to verify the condition of specific components and to identify defects / conditions which are either addressed immediately or logged for subsequent repairs, depending on the nature of the finding, its priority and the scope of the required repair.

During the RMCO’s 2020 monitoring of catenary inspections, the execution of inspections was monitored to assess whether such inspections were performed in accordance with requirements. Findings showed that such inspections were mostly conformant, meaning that most, but not all, were performed within specified intervals and tolerances. This is summarized in the Figure below which indicates that about 10% of catenary inspections could not be confirmed because records were missing. Most exceptions occurred during the first winter of operation (i.e. winter 2019 – 2020).

**Figure 7 – Catenary Inspection Monitoring Findings (2020):**

Sub-Category	Element Monitored	Findings	Comments
D3 - Catenary Inspections	Catenary Inspection Data	<b>Mostly Conformant</b>	<ul style="list-style-type: none"> <li>• A review of catenary inspection data shows that scheduled inspections are mostly performed within WMS timelines (1M, 3M, 6M, 1Y).</li> <li>• However, some catenary inspection records are missing (about 10%). Most issues occurred during last winter.</li> </ul>



## 5.2 **Roles and Responsibilities:**

This Subsection provides perspective by explaining the roles and responsibilities of the different parties involved in these monitoring segments as well as how they relate to City LRT Regulations – this is summarized below:

### 1) **OC Transpo:**

- ✓ OC Transpo is the public transit agency for the City of Ottawa;
- ✓ The City LRT Regulations (i.e. City Manager Designation Appendix B Part 1) reaffirm specific responsibilities for OC Transpo relative to the implementation of designated Programs. This includes the Adoption, Implementation, Direction, Oversight and Records for such Programs. As well, it is required that the Direction and Oversight performed by OC Transpo encompass both the City's internal operation as well as contractors;
- ✓ City LRT Regulations identify specific 'OCT Programs' in Appendix B part 1.3 – the 'Maintenance and Rehabilitation Plan' is one such Program.

### 2) **RTG (Rideau Transit Group) and RTM (Rideau Transit Maintenance):**

- ✓ RTG is the top concessionaire contractor which signed the 30 year Project Agreement (i.e. Contract) for the Confederation Line with the City of Ottawa;
- ✓ RTG is a General Partnership Firm of ACS Infrastructure Canada, SNC-Lavalin, and Ellis Don;
- ✓ It is the RMCO's understanding that RTG dropped-down the maintenance obligations set-out in the P.A. to RTM;
- ✓ RTM subcontracted to Alstom much of the inspection / maintenance activities for key elements of the Confederation Line such as LRV's, track and the catenary;
- ✓ The Project Agreement as well as the regulatory Program entitled 'Maintenance and Rehabilitation Plan' (RTM-MC-PLN-042) contain detailed requirements for contractors relative to the inspections of track, LRV's and the catenary.

In summary, the City LRT Regulations contain regulatory responsibilities which apply to OC Transpo for designated Programs, which include the 'Maintenance and Rehabilitation Plan'. Moreover, although contractors are not directly regulated by City LRT Regulations, they are subject to their Contractual responsibilities which require them to implement specific Programs which are aligned with 'OCT Programs'.

### **5.3 Monitoring Procedure:**

As explained in the previous Subsections, procedures are developed to monitor regulatory compliance relative to ‘OCT Program’ requirements identified in City LRT Regulations. As such, a specific procedure was developed to monitor the inspections of track, LRV and the catenary relative to the Program requirements in the ‘Maintenance and Rehabilitation Plan’ and associated technical documents.

#### **5.3.1 Monitoring Approach:**

As explained in Section 3, the monitoring is performed using a fact and evidence-based approach consisting of the following:

1. Review and analysis of Program-related documents and records;
2. Interviews;
3. Field visit.

The monitoring is performed in 2 segments, as summarized below:

- Segment 1 involves OC Transpo with the objective to monitor their regulatory obligations which include Program Adoption, Implementation, Direction, Oversight and Records;
- Segment 2 involves contractors, with the objective to monitor their implementation of the relevant Programs, as well as the applicable Direction and Oversight provided by OC Transpo. In this instance, since track, LRV and catenary inspections are performed by Alstom employees, the RMCO engaged the primary contractor (RTM) as well as their subcontractor Alstom.

Annex 6 provides a flowchart summarizing the monitoring approach with activities performed during each monitoring segment.

With respect to the inspections of track, LRV and catenary, monitoring commenced on May 9<sup>th</sup> and was completed on August 19<sup>th</sup>, 2022 – a timeline of monitoring activities is provided in Annex 7.

The following subsections provide further detail on the monitoring process.

**5.3.2 Monitoring Process – OC Transpo:**

In order to evaluate objectively compliance relative to OC Transpo’s regulatory responsibilities, the monitoring process is initiated with a request for documents and records associated with the Program being monitored. As such, the monitoring notification was communicated to OC Transpo on May 9<sup>th</sup> with the monitoring procedure and a request for Program-related documents and records summarized in the Figure below:

**Figure 8 - Documents / Records Requested from OC Transpo:**

Regulatory Requirement	Documents / Records Required
Program Adoption	1) Current version of all relevant Program documents which contain inspection requirements for track, LRV and the catenary 2) Documents which may not be formally identified as ‘Programs’ in the ‘City Manager Designation’ but which contain requirements / specifications for such inspections
Program Implementation	1) Confirm that that the seven inspection types identified have been contracted by the City to RTG / RTM through the Project Agreement.
Program Direction	1) Objective evidence of Direction provided by the City to RTG for implementing the Programs and Procedures which relate to the seven inspection types identified. 2) Provide documents or correspondences in which Direction was provided to RTG / RTM for any changes (post-revenue service) relative to the seven inspection types
Program Oversight / Monitoring	1) Provide documents which describe the manner in which Oversight / monitoring is carried out by OC Transpo in relation to applicable Programs and the seven inspection types
Program Records	1) OC Transpo monitoring records relative to execution of such inspections by contractors 2) OC Transpo monitoring records relative to the implementation of applicable Programs by contractors 3) Records should be provided for at least the two recent quarters of Q4-2021 and Q1-2022

In accordance with the procedure, monitoring activities included the review / analysis of such documents and records, as well as meetings with OC Transpo, interviews, and a field visit.

Monitoring activities with OC Transpo were completed for this segment on June 29<sup>th</sup>.

### **5.3.3 Monitoring Process - Contractors:**

As indicated in this Section, contractors were encompassed in monitoring activities to verify the execution of the required track, LRV and catenary inspections, and to assess whether OC Transpo provided appropriate Direction and Oversight to the contractors as required by City Regulations.

Since Alstom is the subcontractor responsible for the inspections of LRV's, track and catenary, the monitoring activities engaged both RTM (i.e. primary contractor), as well as Alstom.

As explained in the previous Subsections, the monitoring was focused on the types of inspections of track, LRV and the catenary which were not fully conformant in 2020 – these inspection types are identified below:

- 1) Track inspections:
  - a) Daily inspections
  - b) Twice per week inspections
  - c) Monthly track inspections
  - d) 1 month turnout inspection
  - e) Extreme weather inspections (i.e. high temperature, cold temperature and rapid temperature changes)
- 2) LRV inspections (mileage-based inspections)
- 3) Catenary inspections (scheduled inspections)

The monitoring reviewed the execution of such inspections over two quarters (Q4-2021 and Q1-2022), as well as RTM's Adoption, Implementation, Oversight and Records associated with the Program.

The monitoring process was initiated with RTM on June 3rd with a notification and a request for Program-related documents and records summarized in the Figure below:

**Figure 9 - Documents / Records Requested from RTM:**

Element Monitored	Documents / Information / Records Required
Program Adoption	a) Current version of relevant Program documents which contain inspection requirements for track, LRV and the catenary. b) Other documents which may not be formally identified as 'Programs' in the 'City Manager Designation' but which contain requirements / specifications for such inspections.
Program Implementation	a) Inspection records for such inspections for the period of Q4-2021 and Q1-2022. b) Training requirements and training records for employees involved in the performance of such inspections.
Program Direction	- Objective evidence of Direction from RTM to Alstom, and any other subcontractors involved, relative to the inspection types monitored
Program Oversight / Monitoring	a) RTM to provide its oversight / monitoring plan relative to the key inspection types performed by subcontractors; b) Provide oversight / monitoring Records relative to execution of such inspections by subcontractors for the period being monitored.
Program Records	- Records associated with Implementation and Oversight (above)

Similarly to the monitoring with OC Transpo, this segment with contractors involved the review / analysis of documents and records, meetings and interviews with both RTM and Alstom, as well as a field visit.

Monitoring activities with contractors were completed for this segment on August 19<sup>th</sup>.

The following Subsections describe the monitoring findings.

## 5.4 Monitoring Findings – Inspections of Track, LRV and Catenary:

### 5.4.1 Findings for OC Transpo – Inspections of Track, LRV and Catenary:

Regulatory monitoring activities relative to OC Transpo involved the review / analysis of more than 700 documents and records which were provided as objective evidence relevant to regulatory obligations. This was coupled with meetings, interviews and a field visit.

The following Figure provides a compliance assessment summary for OC Transpo on the basis of the objective evidence collected during monitoring activities. Please note that Figure 10 includes 3 Tables which are presented below:

**Figure 10 - Monitoring Findings for OC Transpo – Inspections of Track, LRV and Catenary:**

ITEM	REFERENCE	ELEMENT	OC TRANSPO - COMPLIANCE ASSESSMENT	NOTES
1A	PROGRAM ADOPTION / IMPLEMENTATION	TRACK	COMPLIANT	KEY DOCUMENTS SUBSTANTIATING MONITORING FINDING: 1) MAINTENANCE & REHABILITATION PLAN RTM-MC-PLN-042, SECTION 13.4.3 'TRACKWORK'. 2) TRACK SAFETY AND INSPECTION RULES RTM-ENG-RUL-132, SECTION 4 TRAINING. 3) ALSTOM ASSET MANAGEMENT PLAN - APPDX B4 'GUIDEWAY MAINTENANCE'. 4) MAINTENANCE & REHABILITATION PLAN RTM-MC-PLN-042, SECTION 8 'TRAINING AND QUALIFICATION OF PERSONNEL'.
1B		LRV	COMPLIANT	KEY DOCUMENTS SUBSTANTIATING MONITORING FINDING: 1) MAINTENANCE & REHABILITATION PLAN RTM-MC-PLN-042: SECTION 13.1 "VEHICLE MAINTENANCE"; SECTION 8 'TRAINING AND QUALIFICATION OF PERSONNEL'. 2) ANNUAL PREVENTATIVE MAINTENANCE PLAN RTM-MC-PLN-641, SECTION 6.1 "VEHICLE MAINTENANCE". 3) ALSTOM ASSET MANAGEMENT PLAN - APPDX B1 "MAINTENANCE FOR ROLLING STOCK LRV".
1C		CATENARY	COMPLIANT	KEY DOCUMENTS SUBSTANTIATING MONITORING FINDING: 1) MAINTENANCE & REHABILITATION PLAN RTM-MC-PLN-042: SECTION 13.4.3.2 "OCS MAINTENANCE"; SECTION 8 'TRAINING AND QUALIFICATION OF PERSONNEL'. 2) ALSTOM ASSET MANAGEMENT PLAN - APPDX B6 'MAINTENANCE FOR OCS - OVERHEAD CATENARY SYSTEM'.

<b>COMPLIANCE SCALE:</b>	<b>C = COMPLIANT</b>	<b>Compliant</b> means that monitoring activities have identified compliant results in accordance with regulatory requirements and Program documents.
	<b>MC = MOSTLY COMPLIANT</b>	<b>Mostly Compliant</b> means that monitoring activities have identified a limited number of relatively minor non-compliances which can be remedied easily in normal course.
	<b>PC = PARTIALLY COMPLIANT</b>	<b>Partially Compliant</b> means that monitoring activities have identified more regular and/or serious non-compliances that require timely action.
	<b>NC = NOT COMPLIANT</b>	<b>Not Compliant</b> means that either full or serious non-compliance were identified, or many non-compliances at the same time or on a repeated or unrectified basis.
<b>NOTE:</b> Refer to Annexes 2,3 and 9 for RMCO Scope and Regulatory / Legal context.		

2A	PROGRAM DIRECTION	TRACK	COMPLIANT	<p>KEY DOCUMENTS SUBSTANTIATING MONITORING FINDING:</p> <p>1) P.A. SCHED. 15-3, APPDX A, ATTACH 4, TRACK MAINTENANCE SERVICES.</p> <p>2) P.A. SCHED. 15-3, APPDX B 'ASSET PRESERVATION' - COVERS TRACK (P. 167), CATENARY (P.170), LRV (P.174).</p> <p>3) P.A. SCHED. 15-3, APPDX A, ARTICLES 1,2, MAINT. PERFORMANCE; SECTION 1.4 'MAINT. AND REHAB PLAN' , SECTION 1.6 'COMPLIANCE' &amp; SECTIONS 1.7, 1.8 'RECORDS' .</p> <p>4) P.A. SCHED. 15-3, APPDX A, ATTACHM 12, SECTION 1 "MAINTENANCE RECORDS AND REPORTING".</p> <p>5) P.A. SCHED. 15-3, APPDX A, MAINTENANCE PERFORMANCE, SECTION 1.3(G) 'TRAINING'.</p> <p>6) DIRECTION ALSO PROVIDED THROUGH OC TRANSPORATION OVERSIGHT PROCESS AND ASSOCIATED CONTRACTUAL CORRESPONDENCE.</p>
2B		LRV	COMPLIANT	<p>KEY DOCUMENTS SUBSTANTIATING MONITORING FINDING:</p> <p>1) P.A. SCHED. 15-3, APPDX A, ATTACH 5, VEHICLE MAINTENANCE SERVICES.</p> <p>2) P.A. SCHED. 15-3, APPDX B 'ASSET PRESERVATION' - COVERS TRACK (P. 167), CATENARY (P.170), LRV (P.174)</p> <p>3) P.A. SCHED. 15-3, APPDX A, ARTICLES 1,2, MAINTENANCE PERF.; SECTION 1.4 'MAINT. AND REHAB PLAN', SECTION 1.6 'COMPLIANCE' AND SECTION 1.7, 1.8 'RECORDS'</p> <p>4) P.A. SCHED. 15-3, APPDX A, ATTACH 12, SECTION 1 "MAINTENANCE RECORDS AND REPORTING".</p> <p>5) P.A. SCHED. 15-3, APPDX A, MAINTENANCE PERFORMANCE, SECTION 1.3(G) 'TRAINING'.</p> <p>6) DIRECTION ALSO PROVIDED THROUGH OC TRANSPORATION OVERSIGHT PROCESS AND ASSOCIATED CONTRACTUAL CORRESPONDENCE.</p>
2C		CATENARY	COMPLIANT	<p>KEY DOCUMENTS SUBSTANTIATING MONITORING FINDING:</p> <p>1) P.A. SCHED. 15-3, APPDX B 'ASSET PRESERVATION' - COVERS TRACK (P. 167), CATENARY (P.170), LRV (P.174).</p> <p>2) P.A. SCHED. 15-3, APPDX A, ARTICLES 1,2, MAINT. PERFORMANCE; SECTION 1.4 'MAINT. AND REHAB PLAN' , SECTION 1.6 'COMPLIANCE' AND SECTION 1.7, 1.8 'RECORDS'.</p> <p>3) P.A. SCHED. 15-3, APPDX A, ATTACHM 12, SECTION 1 "MAINTENANCE RECORDS AND REPORTING".</p> <p>4) P.A. SCHED. 15-3, APPDX A, MAINTENANCE PERFORMANCE, SECTION 1.3(G) 'TRAINING'.</p> <p>5) DIRECTION ALSO PROVIDED THROUGH OC TRANSPORATION OVERSIGHT PROCESS AND ASSOCIATED CONTRACTUAL CORRESPONDENCE.</p>

3A	PROGRAM OVERSIGHT	TRACK	MOSTLY COMPLIANT	<p>KEY DOCUMENTS SUBSTANTIATING MONITORING FINDING:                      1) OC TRANSPO LINE 1 OVERSIGHT PLAN 2022 (SFRG-OTRC-001-PLN)                      2) LINE 1 OVERSIGHT OVERSIGHT SCHEDULES                      .....</p> <p>COMMENTS: OC TRANSPO LINE 1 OVERSIGHT PLAN IS SUBSTANTIVE AND COVERS FIELD OVERSIGHT AS WELL AS REVIEW OF DOCUMENTS / RECORDS. DETAILED OVERSIGHT ACTIVITIES ARE SCHEDULED AND CARRIED OUT WITH SIGNIFICANT RESOURCES ALLOCATED. OVERSIGHT FINDINGS ARE ENTERED IN INFORMATION SYSTEM (CLEVERCAD) AND TRACKED IN SPREADSHEETS. HOWEVER, OCT OVERSIGHT PLAN SHOULD BE STRENGTHENED BY ENCOMPASSING TRAINING OF RTM / ALSTOM EMPLOYEES AS REQUIRED IN PROGRAM DOCUMENTS.</p>
3B		LRV	MOSTLY COMPLIANT	SAME AS 3A
3C		CATENARY	MOSTLY COMPLIANT	SAME AS 3A
4A	PROGRAM RECORDS	TRACK	COMPLIANT	<p>KEY DOCUMENTS / RECORDS SUBSTANTIATING MONITORING FINDING:                      1) LINE 1 OVERSIGHT SCHEDULES.                      2) OVERSIGHT MONTHLY REPORTS / SUMMARIES.                      3) RECORDS ENTERED AND MAINTAINED IN INFORMATION SYSTEM (CLEVERCAD).                      4) OVERSIGHT FINDINGS RECORDED AND TRACKED IN SPREADSHEETS.                      .....</p> <p>COMMENTS: OC TRANSPO HAS SYSTEM IN PLACE TO MAINTAIN OVERSIGHT RECORDS. THIS INCLUDES ENTERING OVERSIGHT ACTIVITIES AND RECORDING RELEVANT FINDINGS.</p>
4B		LRV	COMPLIANT	SAME AS 4A
4C		CATENARY	COMPLIANT	SAME AS 4A

**Compliant Findings for OC Transpo:**

The above Figure shows compliant findings for the following regulatory responsibilities relative to the Program:

- Adoption;
- Implementation;
- Direction;
- Records.



### **Oversight Finding for OC Transpo – Mostly Compliant:**

The area of Oversight / monitoring is identified as ‘mostly compliant’ for the following reasons:

- OC Transpo’s Oversight Plan is substantive and includes detailed schedules of monitoring activities which are updated at the beginning of each year as well as throughout the year;
- OC Transpo has a dedicated Oversight group with significant resources of several full time equivalent staff, in addition to other staff responsible for oversight across OC Transpo;
- A review of OC Transpo’s Oversight Records indicates that they are actively monitoring the inspection of track, LRV and catenary. This includes field observations as well as the review of documents / records;
- Further, a review of the Oversight records and associated monthly Oversight reports indicate that OC Transpo has been identifying conformance gaps on an ongoing basis and that these are brought to the attention of contractors through formal contractual correspondences, oversight notifications and meetings. Therefore the inspection gaps identified by the RMCO (refer to next Subsection) are consistent with OC Transpo’s Oversight findings;
- However, the RMCO’s monitoring noted that OC Transpo’s Oversight activities do not monitor the training of contractor employees involved in performing inspections of track, LRV and the catenary, although this is a Program requirement;
- As part of this monitoring segment, the RMCO verified training compliance for Alstom employees involved in the inspections of track, LRV’s and the catenary – findings identified training gaps for all 3 employee types relative to requirements identified in training matrices (refer to next Subsection).

### **Opportunity to Strengthen Information System for tracking of Oversight Findings:**

OC Transpo has an Information System called ‘CleverCad’ which is a central data collection system used to record Oversight findings. However, this information system has limited querying capabilities, meaning that staff performing Oversight activities need to keep individual notes and spreadsheets to track repetitive findings and associated particulars.

As such, there is an opportunity to strengthen ‘CleverCad’ to provide further querying capabilities relative to the tracking of Oversight findings. This will facilitate the tracking of findings and will increase visibility of such information to all Oversight staff and the OC Transpo organization.

### **Remedial Actions Taken by OC Transpo:**

The above Finding and Opportunity were reviewed with OC Transpo and the following actions are being taken:

- OC Transpo’s 2023 Oversight Plan will be enhanced to monitor the training of contractor employees;
- OC Transpo is engaging information technology staff to enhance the ‘CleverCad’ Information System.

#### **5.4.2 Monitoring Findings for RTM – Inspections of Track, LRV and Catenary:**

Regulatory monitoring activities relative to RTM / Alstom involved the review / analysis of more than 600 documents and records which were provided as objective evidence relative to the execution of inspections of track, LRV and catenary, as well as associated contractual responsibilities. This was coupled with meetings, interviews involving both RTM and Alstom, as well as a field visit.

The following Figure summarizes monitoring findings for RTM on the basis of the objective evidence collected during monitoring activities. Please note that Figure 11 includes 3 Tables which are presented below:

**Figure 11 - Monitoring Findings for RTM – Inspections of Track, LRV and Catenary:**

ITEM	REFERENCE	ELEMENT	RTM - CONFORMANCE	NOTES
1A	PROGRAM ADOPTION	TRACK	CONFORMANT	THE FOLLOWING DOCUMENTS WERE PROVIDED BY RTM: 1) TRACK SAFETY AND INSPECTION RULES (ENG-RUL-132); 2) MAINTENANCE AND REHABILITATION PLAN (RTM-MC-PLN-042); 3) ASSET MANAGEMENT PLAN ENG-SV-OTT-PRO-001 (ALSTOM); 4) 5 ALSTOM WMS PROCEDURES SPECIFIC TO TRACK
1B		LRV	CONFORMANT	THE FOLLOWING DOCUMENTS WERE PROVIDED BY RTM: 1) MAINTENANCE AND REHABILITATION PLAN (RTM-MC-PLN-042); 2) ASSET MANAGEMENT PLAN ENG-SV-OTT-PRO-001 (ALSTOM); 3) 36 ALSTOM WMS PROCEDURES SPECIFIC TO LRV
1C		CATENARY	CONFORMANT	THE FOLLOWING DOCUMENTS WERE PROVIDED BY RTM: 1) MAINTENANCE AND REHABILITATION PLAN (RTM-MC-PLN-042); 2) ASSET MANAGEMENT PLAN ENG-SV-OTT-PRO-001 (ALSTOM) 3) 10 ALSTOM WMS PROCEDURES SPECIFIC TO CATENARY
2	PROGRAM DIRECTION	TRACK, LRV AND CATENARY	N/A	RTM PROVIDED CONFIRMATION THAT RELEVANT PROJECT AGREEMENT PARTS HAVE BEEN CONVEYED TO THEIR SUBCONTRACTORS. HOWEVER, AN OBJECTIVE ASSESSMENT OF THIS AREA WOULD REQUIRE THE REVIEW OF CONTRACTUAL MATERIAL WHICH IS LARGELY CONFIDENTIAL.

**CONFORMANCE SCALE:**

<b>CONFORMANT</b>	<b>Conformant:</b> means that monitoring activities have <b>not</b> identified any non-conformances relative to Program requirements by Contractor.
<b>MOSTLY CONFORMANT</b>	<b>Mostly Conformant:</b> means that monitoring activities have only identified a limited number of relatively minor non-conformances capable of being easily remedied in normal course.
<b>PARTIALLY CONFORMANT</b>	<b>Partially Conformant:</b> means that monitoring activities have identified more regular and/or more serious non-conformances that require timely attention.
<b>NOT CONFORMANT</b>	<b>Not Conformant:</b> means that monitoring activities have identified either full or serious non-conformance, or many non-conformances at the same time or on a repeated or unrectified basis.

**NOTE:** Refer to Annexes 2,3 and 9 for RMCO Scope and Regulatory / Legal context.

Note: The term 'conformant' is used for contractors rather than 'compliant' since findings relate to Contractual requirements (i.e. Project Agreement) and Direction from OC Transpo, rather than City LRT Regulations.

3A	PROGRAM IMPLEMENTATION	TRACK	TRAINING - PARTIALLY CONFORMANT	1) TRAINING MATRIX AND TRAINING RECORDS PROVIDED; 2) HOWEVER, A REVIEW OF TRAINING RECORDS (RELATIVE TO TRAINING MATRIX) FOR A SAMPLE OF EMPLOYEES SHOWS THAT 7 OF 9 GUIDEWAY TECHNICIANS ARE MISSING SOME MANDATORY TRAINING COURSES
3B			EXECUTION OF TRACK INSPECTIONS - PARTIALLY CONFORMANT	1) EXTREME WEATHER INSPECTIONS CONFORMANT 2) RECORDS MISSING FOR SUBSTANTIAL NUMBER OF TRACK INSPECTIONS FOR PERIOD MONITORED: a) RECORDS MISSING FOR ABOUT 15% OF 3 DAY ML INSP.; b) RECORDS MISSING FOR 30% OF 1 MONTH TURNOUT INSP.; c) RECORDS MISSING FOR ABOUT 30% OF 1 DAY MAINLINE INSP.; d) RECORDS MISSING FOR ABOUT 30% OF 1 MONTH MAINLINE INSP.
3C		LRV	TRAINING - PARTIALLY CONFORMANT	1) TRAINING MATRIX AND TRAINING RECORDS PROVIDED; 2) HOWEVER, A REVIEW OF TRAINING RECORDS (RELATIVE TO TRAINING MATRIX) FOR A SAMPLE OF EMPLOYEES SHOWS THAT 7 OF 9 MAINTENANCE VEHICLE TECHS ARE MISSING SOME MANDATORY TRAINING
3D			EXECUTION OF LRV INSPECTIONS - MOSTLY CONFORMANT	RECORDS PROVIDED SHOW GENERALLY GOOD CONFORMANCE, HOWEVER ABOUT 15% OF 10K INSPECTIONS WERE PERFORMED BEYOND THE ALLOWABLE TOLERANCE.
3E		CATENARY	TRAINING - PARTIALLY CONFORMANT	1) TRAINING MATRIX AND TRAINING RECORDS PROVIDED; 2) HOWEVER, A REVIEW OF TRAINING RECORDS (RELATIVE TO TRAINING MATRIX) FOR A SAMPLE OF EMPLOYEES SHOWS THAT 2 OF 5 POWER TECHS ARE MISSING SOME MANDATORY TRAINING.
3F			EXECUTION OF CATENARY INSPECTIONS - PARTIALLY CONFORMANT	1) RECORDS MISSING FOR SUBSTANTIAL NUMBER OF CATENARY INSPECTIONS FOR PERIOD MONITORED: a) MISSING 3 OF 12 INSPECTION RECORDS FOR 6M INSPECTION (WMS001); b) MISSING 5 OF 12 RECORDS FOR 6M OCS TENSIONING (WMS002); c) MISSING 3 OF 12 INSP RECORDS FOR 1 YR PREV OCS (WMS005); d) INSPECTION RECORDS FOR WMS003, WMS004 AND WMS006 NOT PROVIDED; e) TWO 2M INSPECTIONS WMS007 AND WMS009 APPEAR TO HAVE BEEN DONE LATE (I.E. BEYOND TOLERANCE)

4	PROGRAM OVERSIGHT	TRACK, LRV AND CATENARY	OVERSIGHT - PARTIALLY CONFORMANT	<p>1) RTM OVERSIGHT PLAN (RTM-OP-PLN-739) IS DATED APRIL 29, 2022 WHICH IS AFTER THE PERIOD MONITORED BY THE RMCO (Q4 2021 - Q1 2022) IN THIS SEGMENT.</p> <p>2) OBJECTIVE EVIDENCE OBTAINED DURING THE MONITORING INDICATES THAT RTM OVERSIGHT WAS PERFORMED DURING THE PERIOD MONITORED, ALTHOUGH NO SPECIFIC PLAN / PROCESS WAS PROVIDED. FORMAL OVERSIGHT RECORDS WERE NOT PROVIDED BY RTM FOR THE PERIOD MONITORED.</p>
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**Overview of Findings for RTM:**

In summary the monitoring activities identified the following conformance findings for RTM relative to the inspection of track, LRV and catenary:

- 10 elements monitored:
  - 3 conformant
  - 1 mostly conformant
  - 6 partially conformant

**The key conformance gaps are summarized below:**

- 1) Records for the execution of inspections were incomplete for all 3 areas monitored:
  - a) Track inspections: Some inspection records missing for 4 of the 5 inspection types monitored. The percentage of missing records ranges from 15% to 30%, depending on the inspection type, for the period monitored – this does not show an improvement versus 2020 findings. On a positive note, all the extreme weather inspections were completed, which represents an improvement versus 2020;
  - b) LRV: although there was a significant improvement in the execution of LRV inspections since 2020, about 15% of the 10K inspections monitored were completed beyond the allowable tolerance;
  - c) Catenary: Some inspection records missing for catenary inspections – there were 3 inspection types with missing records ranging from 25% to 40%. As well, records for 3 other inspection types were not provided,

and another 2 inspection types were done beyond the allowable time tolerance. This does not show an improvement versus 2020 findings.

- 2) Training gaps for all 3 employee types involved in inspections of track, LRV and catenary:
  - a) 7 of 9 ‘guideway technicians’ (involved in track inspections) monitored were missing some mandatory courses relative to Alstom’s training matrix;
  - b) 7 of 9 ‘maintenance vehicle technicians’ (involved in LRV inspections) monitored were missing some mandatory courses relative to Alstom’s training matrix;
  - c) 2 of 5 ‘power technicians’ (involved in catenary inspections) monitored were missing some mandatory courses relative to Alstom’s training matrix.
- 3) Oversight Plan formalized after monitoring period:
  - a) RTM provided an Oversight Plan dated April 29, 2022 – this date is after the time period monitored (i.e. Q4 2021 to Q1-2022);
  - b) Although interviews indicate that RTM was performing Oversight activities prior to the formalization of the Oversight Plan, oversight records were not provided for the period monitored.

**Actions Taken Relative to Findings:**

The above findings have been the subject of meetings engaging OC Transpo, RTM and the RMCO. OC Transpo has formally requested a corrective action plan for each finding. These are under review and are the subject of quarterly meetings as well as a formal tracking table. Further details on the remedial actions process are provided in Section 7.

As a further note, the area of Program Direction was monitored - correspondence from RTM indicates that Direction was provided to their subcontractors relative to Program requirements. However the RMCO could not confirm this objectively since it would require the review of contractual material which is largely confidential – as such, a formal conformance finding was not provided for this part.

## **6. Monitoring of Security Management System:**

### **6.1 Monitoring Process - Security Management System:**

#### **6.1.1 Background on Security Management System:**

The following information provides context on the meaning and significance of the Security Management System (SeMS).

The purpose of a Security Management System (SeMS) is to provide an organization with a framework to mitigate security risks through the proactive management of potential threats and areas where there are vulnerabilities.

A Security Management System is broad-based encompassing areas such as operations, employees, passengers, equipment, facilities and cyber security. It involves the identification of an organization's assets (including people, buildings, equipment, systems and information assets), as well as potential threats and vulnerabilities. This enables the development, documentation, and implementation of policies and procedures for mitigating security risks. An organization uses such security management procedures for information classification, threat assessment, risk assessment, as well as risk mitigation and proactive management.

City LRT Regulations identify 'Security Management System' (SeMS) as a specific 'OCT Program'.

OC Transpo's Security Management System (SeMS) states the following:

*"The purpose of developing the OC Transpo Security Management System (SeMS) is to enhance and maintain the security of our public transit system by establishing a framework in which comprehensive, effective and sustainable security measures can be developed, implemented and maintained".*

*"This SeMS applies to all persons involved in the delivery of OC Transpo's public transit system, including employees, visitors, and long-term service contractors, with specific responsibilities assigned to specific positions as indicated within this SeMS".*

*"This SeMS was developed based on the results of a threat and vulnerability risk assessment (TVRA) ... and has been guided by:*

- Transport Canada's Code of Practice for Developing and Maintaining Security Plans for Rail and Transit Operators; and*
- The Memorandum of Understanding Railway Security between Transport Canada and the Railway Association of Canada.*

As well, there are specific Security Management requirements for contractors which are identified in the Project Agreement, which constitutes the Contract between the City and RTG – this is covered in more detail in this Section.

As a further point, this monitoring activity follows the RMCO's monitoring of OC Transpo's Emergency Management Processes which was performed in 2021 (refer to Annual Compliance Report dated March 1, 2022).

**6.1.2 Responsible Parties / Contractors:**

Please refer to Subsection 5.2 of this Report for a description of the responsible parties and contractors involved in this monitoring segment.

**6.1.3 Monitoring Procedure:**

Specific procedures were developed to monitor regulatory compliance for OC Transpo as well as contractor conformance relative to SeMS contractual responsibilities. Please refer to Subsection 5.3 of this Report which describes the monitoring approach as well as the types of documents and Records requested / reviewed.



## 6.2 Monitoring Findings - Security Management System (SeMS):

### 6.2.1 Monitoring Findings for OC Transpo – SeMS

The regulatory compliance Findings for OC Transpo are summarized in Figure 12 which includes 2 Tables presented below:

**Figure 12 – Monitoring Findings for OC Transpo - SeMS:**

ITEM	REFERENCE	ELEMENT	OC TRANSPO	NOTES
1A	PROGRAM ADOPTION	SeMS MANUAL DEVELOPED / ADOPTED	COMPLIANT	OC TRANSPO SeMS MANUAL PROVIDED - DATED 2022 AND INCLUDES APPENDIX B (SPECIFIC SECURITY PLAN).
2A	PROGRAM IMPLEMENTATION	COMMUNICATION OF PROGRAM AND ITS REQUIREMENTS	COMPLIANT	COMMUNICATION DOCUMENTS PROVIDED
2B		SECURITY MGMT POLICY AVAILABLE 2022	COMPLIANT	SeMS POLICY AVAILABLE IN 2022 OC TRANSPO SeMS MANUAL
2C		OBJECTIVES / INITIATIVES AVAILABLE FOR 2022	COMPLIANT	OBJECTIVES AND INITIATIVES AVAILABLE IN: 1) SeMS PROGRAM MANUAL SECTION 2.4 (A1); 2) SeMS APPENDIX B SECTION 7 (A2)
2D		TVA	MOSTLY COMPLIANT	TVA's PERFORMED FOR LINE 1 IN 2015 AND 2022. REQUIREMENT EVERY 3 YEARS AS PER SeMS SECTIONS 1.4 AND 4.1.1.
2E		TRAINING FOR CITY OFFICERS (SPECIAL CONSTABLES, MANAGERS etc)	COMPLIANT	RECORDS PROVIDED TO SUBSTANTIATE TRAINING DELIVERY FOR OFFICERS
2F		TRAINING AWARENESS FOR ALL CITY EMPLOYEES (SeMS SECTION 8.3.1)	COMPLIANT	DOCUMENTS AND RECORDS PROVIDED TO SUBSTANTIATE TRAINING AWARENESS DELIVERY FOR EMPLOYEES
2G		DRILLS / EXERCISES (SeMS SECTION 9)	COMPLIANT	RECORDS PROVIDED TO SUBSTANTIATE DRILLS / EXERCISES PERFORMED AND PLANNED
2H		TABLE TOP EXERCISES ANNUALLY (SeMS SECTION 9.4.1) AND FULL SCALE EXERCISES EVERY 3 YEARS (SECTION 9.4.2)	COMPLIANT	1) EVIDENCE PROVIDED OF TABLE TOP EXERCISE DONE IN 2021 AND 2022. 2) EVIDENCE PROVIDED OF FULL SCALE EXERCISES PERFORMED AND PLANNED.

3A	PROGRAM DIRECTION	INTERNAL DIRECTION PROVIDED	COMPLIANT	EVIDENCE OF INTERNAL DIRECTION PROVIDED, INCLUDING TRAINING, COMMUNIQUEs AND CORRESPONDENCE
3B		DIRECTION TO CONTRACTORS PROVIDED	COMPLIANT	EVIDENCE OF DIRECTION THROUGH SPECIFIC REQUIREMENTS IN PROJECT AGREEMENT, AS WELL AS OC TRANSPo CORRESPONDENCE
4A	PROGRAM OVERSIGHT	MONITORING PLAN / PROCESS AVAILABLE	COMPLIANT	OC TRANSPo PROVIDED SUBSTANTIVE OVERSIGHT PLAN WITH ANNEXES DETAILING MONITORING ACTIVITIES
4B		OVERSIGHT INTERNAL	COMPLIANT	EVIDENCE OF INTERNAL OVERSIGHT PROVIDED, INCLUDING STATISTICS, TRAINING, DRILLS AND SeMS COMMITTEE MEETINGS
4C		OVERSIGHT CONTRACTORS - CONTRACTUAL	COMPLIANT	EVIDENCE PROVIDED OF CONTRACTUAL OVERSIGHT THROUGH CORRESPONDENCES FROM OC TRANSPo TO RTG
4D		OVERSIGHT CONTRACTORS - PROGRAM IMPLEMENTATION (e.g. IMPLEMENTATION - TRAINING, READINESS etc)	MOSTLY COMPLIANT	ALTHOUGH OC TRANSPo HAS A SUBSTANTIVE OVERSIGHT PLAN WHICH ENCOMPASSES INTERNAL SeMS PROGRAM ACTIVITIES AND RTM CONTRACTUAL OVERSIGHT, THERE IS NO EVIDENCE OF <b>PROGRAM OVERSIGHT</b> REQUIRED TO MONITOR CONTRACTOR SeMS IMPLEMENTATION (E.G. TRAINING, BACKGROUND CHECKS, DRILLS, SeMS UPDATED ETC.). THIS IS CORROBORATED BY CONTRACTOR MONITORING WHICH IDENTIFIED MIXED CONFORMANCE FINDINGS.
5A	PROGRAM RECORDS	TRAINING RECORDS (INTERNAL OCT)	COMPLIANT	TRAINING RECORDS PROVIDED.
5B		OCT RECORDS RELATIVE TO OVERSIGHT	COMPLIANT	RECORDS PROVIDED RELATIVE TO STATISTICS, DRILLS, EVALUATIONS / DRILLS etc.

<b>COMPLIANCE SCALE:</b>	<b>C = COMPLIANT</b>	<b>Compliant</b> means that monitoring activities have identified compliant results in accordance with regulatory requirements and Program documents.
	<b>MC = MOSTLY COMPLIANT</b>	<b>Mostly Compliant</b> means that monitoring activities have identified a limited number of relatively minor non-compliances which can be remedied easily in normal course.
	<b>PC = PARTIALLY COMPLIANT</b>	<b>Partially Compliant</b> means that monitoring activities have identified more regular and/or serious non-compliances that require timely action.
	<b>NC = NOT COMPLIANT</b>	<b>Not Compliant</b> means that either full or serious non-compliance were identified, or many non-compliances at the same time or on a repeated or unrectified basis.
<b>NOTE:</b> Refer to Annexes 2,3 and 9 for RMCO Scope and Regulatory / Legal context.		

### **Findings for OC Transpo – Compliant for Adoption, Direction and Records:**

The above Figure shows compliant findings for the following regulatory responsibilities relative to the SeMS Program:

- Adoption;
- Direction;
- Records.

### **Findings for OC Transpo Relative to Program Implementation:**

Program implementation was monitored for OC Transpo through eight elements which are identified in the Figure above. Seven of the elements monitored are compliant – this includes training for managers and employees, a current security Policy and objectives / initiatives, as well as readiness activities which include drills and table-top exercises.

The element which was mostly compliant relates to the ‘threat and vulnerability risk analysis’ (TVRA) which is required every 3 years in the Program document. TVRA’s were performed for the Confederation Line in 2015 and 2022.

### **Finding for OC Transpo Relative to Oversight:**

The area of Oversight is identified as ‘mostly compliant’ for OC Transpo for the following reasons:

- OC Transpo’s Oversight Plan is substantive and includes detailed schedules of monitoring activities which are updated at the beginning of each year as well as throughout the year;
- A number of monitoring activities and reviews are performed by OC Transpo through the monitoring of security data, the review / assessment of drills / exercises and a security management committee which meets regularly to review security matters and improvement opportunities;
- However, the RMCO’s monitoring identified several gaps with the contractor’s Security Management Plan and its implementation (refer to Subsection 6.2.2) which indicate that OC Transpo can strengthen their Program Oversight activities to ensure that contractors meet contractual requirements. As an example, Program Oversight activities should include the following:
  - ✓ Does the contractor have an updated SeMS?
  - ✓ Does the contractor SeMS meet the requirements identified in the P.A.?
  - ✓ Has the contractor implemented its SeMS?
  - ✓ Has the primary contractor provided adequate Direction to its subcontractors relative to SeMS?

**Remedial Actions Taken by OC Transpo:**

The above Findings were reviewed with OC Transpo, and the following actions are being taken:

- ✓ OC Transpo’s 2023 Oversight Plan will be enhanced to monitor contractor SeMS Program requirements;
- ✓ OC Transpo’s 2023 Security Management System will be updated using the latest (2022) Threat and Vulnerability Risk Analysis (TVRA). OC Transpo will ensure that subsequent TVRA’s are performed at 3 year intervals in accordance with Program requirements.

**6.2.2 Monitoring Findings for RTM – Security Management System (SeMS):**

The SeMS monitoring findings for RTM are summarized in Figure 13 which includes 4 Tables presented below:

**Figure 13 - Monitoring Findings for RTM - SeMS:**

ITEM	REFERENCE	ELEMENT	RTM	NOTES
1A	PROGRAM ADOPTION	SeMS MANUAL DEVELOPED / ADOPTED	CONFORMANT	RTM HAS SECURITY MANAGEMENT PLAN WHICH APPEARS TO BE ALIGNED WITH P.A. REQUIREMENTS.

**CONFORMANCE SCALE:**

<b>CONFORMANT</b>	<b>Conformant:</b> means that monitoring activities have <b>not</b> identified any non-conformances relative to Program requirements by Contractor.
<b>MOSTLY CONFORMANT</b>	<b>Mostly Conformant:</b> means that monitoring activities have only identified a limited number of relatively minor non-conformances capable of being easily remedied in normal course.
<b>PARTIALLY CONFORMANT</b>	<b>Partially Conformant:</b> means that monitoring activities have identified more regular and/or more serious non-conformances that require timely attention.
<b>NOT CONFORMANT</b>	<b>Not Conformant:</b> means that monitoring activities have identified either full or serious non-conformance, or many non-conformances at the same time or on a repeated or unrectified basis.

**NOTE:** Refer to Annexes 2,3 and 9 for RMCO Scope and Regulatory / Legal context.

Note: The term ‘conformant’ is used for contractors rather than ‘compliant’ since findings relate to Contractual requirements (i.e. Project Agreement) and Direction from OC Transpo, rather than City LRT Regulations.

2A	<b>PROGRAM IMPLEMENTATION</b>	ANNUAL REVIEWS OF SECURITY MANAGEMENT PLAN	<b>PARTIALLY CONFORMANT</b>	RTM SEMP REVIEWS (REQUIRED AS PER RTM SEMP 1.6) DO NOT APPEAR TO BE DONE ANNUALLY.
2B		SECURITY PROCEDURES	<b>CONFORMANT</b>	RTM PROVIDED SEVERAL SECURITY-RELATED PROCEDURES.
2C		SECURITY TRAINING	<b>MOSTLY CONFORMANT</b>	THE TRAINING MATERIAL PROVIDES SOME SECURITY CONTENT, BUT IS FOCUSED ON HEALTH AND SAFETY. IT DOES NOT REFER TO RTM'S SEMP AND DOES NOT COVER FULLY ITS P.A. OBLIGATIONS (P.A. SCHEDULE 15-3, ARTICLE 5.2 (B) (II) (B) AND RTM SEMS SECTION 4.14.2). ELEMENTS TO CONSIDER ADDING: I) NAME OF TRAINING TO STATE 'HEALTH, SAFETY AND SECURITY'; II) SEMP OVERVIEW; III) NEED FOR EMPLOYEES TO UNDERGO SECURITY CLEARANCE VERIFICATION ETC.
2D		SECURITY INITIATIVES	<b>MOSTLY CONFORMANT</b>	SECURITY INITIATIVES INCLUDE CCTV, ACCESS CONTROLS, TRAINING, CYBER SECURITY, KEY MANAGEMENT, DRILLS ETC. THE FENCING INTRUSION DETECTION SYSTEM (SEMP PART 4.7) IS EXPECTED TO BE FUNCTIONAL ONLY IN 2023.
2E		EMPLOYEE SECURITY CLEARANCE CHECKS	<b>NOT CONFORMANT</b>	EMPLOYEE SECURITY VERIFICATIONS ARE REQUIRED BY P.A. (SCHED. 15-3, ARTICLE 5.3) AND RTM SEMP (4.13). RTM APPEARS TO BE PERFORMING HR REFERENCE CHECKS, BUT NO EVIDENCE OF EMPLOYEE SECURITY CLEARANCE VERIFICATIONS BEING PERFORMED.
2F		SECURITY DRILLS / EXERCISES	<b>MOSTLY CONFORMANT</b>	RECORDS PROVIDED FOR FIRE DRILLS PERFORMED IN SEPT. 2021 AND DEC. 2022. SUCH DRILLS ARE REQUIRED WITHIN 12 MONTH INTERVALS (ONTARIO FIRE CODE (2.8.3.2.1(1), RTM'S SEMP 4.15 AND FIRE SAFETY PLAN RTM-SMS-PLN-241).

3A	PROGRAM DIRECTION	INTERNAL DIRECTION	CONFORMANT	INTERNAL PROCEDURES PROVIDED (E.G. YCC MANUAL, HELP DESK PLAN, KEY POLICY, TRAINING ETC.)
3B		DIRECTION TO CONTRACTORS	PARTIALLY CONFORMANT	<p>RTM HAS PROVIDED THE FOLLOWING:</p> <p>1) EXCERPT 9.5 (A) ENTITLED "THE MAINTENANCE SUBCONTRACTOR SHALL" STATES: "COMPLY WITH THE SAFETY MANAGEMENT PLAN", "...GOOD INDUSTRY PRACTICE", "...MAINTAIN AND SECURE THE MSF", AND "...COMPLY WITH APPLICABLE LAW RELATING TO HEALTH AND SAFETY..."</p> <p>2) EXCERPT 28.5 ENTITLED "STAFF COMPETENCY" STATES: EMPLOYEES SHALL "RECEIVE SUCH TRAINING AND SUPERVISION AS IS NECESSARY TO ENSURE PROPER PERFORMANCE OF THIS AGREEMENT AND COMPLIANCE WITH ALL HEALTH AND SAFETY RULES...", "...MSC PARTIES TO .... MONITOR AND CORRECT ... COMPETENCY PERSONS..."</p> <p>THE SUBCONTRACT EXCERPTS PROVIDED DO NOT APPEAR TO REFER TO RTM'S SEMP, ALTHOUGH IT IS APPLICABLE TO SUBCONTRACTORS (SEMP 1.2). FURTHER, THE ALSTOM OFFICERS INTERVIEWED WERE NOT AWARE OF RTM'S SEMP. ELEMENTS SUCH AS EMPLOYEE SECURITY CLEARANCE CHECKS DO NOT APPEAR TO BE DONE BY SUBCONTRACTORS.</p>

4A	PROGRAM OVERSIGHT	OVERSIGHT / MONITORING	MOSTLY CONFORMANT	<p>RTM PROVIDED OVERSIGHT AND MONITORING PLAN WHICH IS FOCUSED ON "... MAINTENANCE AND REHABILITATION ACTIVITIES, INCLUDING RTM'S OWN, ALSTOM'S, AND OTHER SUBCONTRACTORS". THE INFORMATION PROVIDED BY RTM INDICATES THAT ONGOING OPERATIONAL MONITORING IS BEING DONE BY YCC'S FOR CERTAIN SECURITY INITIATIVES (I.E. CCTV, ACCESS TO FACILITY, EMERGENCY BUTTONS ETC.) AND THAT SECURITY EVENTS ARE DOCUMENTED IN THE 'SERVICE SUMMARY REPORTS'. HOWEVER THIS DOES NOT COVER 'PROGRAM OVERSIGHT' FOR SEMP (I.E. HOW DOES RTM MONITOR SEMP RESPONSIBILITIES SUCH AS EMPLOYEE SECURITY VERIFICATIONS, SUBCONTRACTOR COMPLIANCE, ANNUAL REVIEWS ETC.)?</p>
5A	PROGRAM RECORDS	TRAINING RECORDS	CONFORMANT	<p>TRAINING RECORDS PROVIDED FOR RTM AND ALSTOM.</p>
5B		OVERSIGHT / SeMP RECORDS	MOSTLY CONFORMANT	<p>RECORDS AVAILABLE OF SECURITY STATISTICS, DRILLS ETC. MISSING PROGRAM OVERSIGHT RECORDS (E.G. ANNUAL REVIEWS, EMPLOYEE SECURITY VERIFICATIONS, CONTRACTOR SECURITY COMPLIANCE ETC.)</p>



### **Overview of Findings for RTM:**

In summary, the RMCO monitoring activities identified the following conformance findings for RTM relative to Security Management Plan requirements identified in the P.A. (refer to the above Figure for details):

1. Program Adoption:
  - ✓ 1 element monitored: conformant. RTM Security Management Plan (SeMP) appears to be aligned with P.A requirements.
2. Program Implementation:
  - ✓ 6 elements monitored: 1 conformant, 3 mostly conformant, 1 partially conformant, 1 not conformant.
3. Program Direction:
  - ✓ 2 elements monitored: 1 conformant, 1 partially conformant.
4. Program Oversight:
  - ✓ 1 element monitored: 1 mostly conformant.
5. Program Records:
  - ✓ 2 elements monitored: 1 conformant, 1 mostly conformant.

The most significant conformance gap relates to employee security clearance verifications for contractor employees which do not appear to be performed.

### **Actions Taken Relative to Findings:**

The above findings were reviewed in meetings engaging OC Transpo, RTM and the RMCO. OC Transpo has formally requested a corrective action plan for each finding which will continue to be the subject of quarterly meetings, ongoing monitoring and a formal tracking table. Further details on the remedial actions process are provided in Section 7.

## **7. Remedial Actions for RMCO Monitoring Findings:**

As explained in Section 3 of this Report, the RMCO monitoring process involves the ongoing review of findings with stakeholders for two key reasons:

- Provide an opportunity for stakeholders to provide objective evidence which contributes to the accuracy and completeness of preliminary findings;
- Provide the ability for stakeholders to develop remedial actions expediently.

Further, it is important to note that the RMCO's mandate does not encompass the resolution of remedial actions with contractors since the City (i.e. OC Transpo) is responsible to engage its contractors to request remedial actions for RMCO findings, to monitor resolution and to use contractual means, as required, to expedite resolution. The remedial actions requested by the City are generally aligned with the contractual obligations of RTM and Alstom.

In accordance with the above, the RMCO continues to work closely with OC Transpo to provide detailed information on findings, and to jointly engage contractors in an effort to clarify findings and expectations for appropriate remedial actions which address findings.

Further, in an effort to support structured and timely follow-up, quarterly meetings are held with OC Transpo, RTM and the RMCO to review monitoring findings and the respective remedial actions submitted by RTM. The level of collaboration by RTM has been good with updates on remedial actions provided monthly, as well as participation during the quarterly meetings - notwithstanding the good collaboration, and progress made on many findings, the resolution of some items is prolonged due to a number of factors, such as:

- Certain findings, such as those relating to the Emergency Response Plan, require significant development effort to meet the requirements of the Project Agreement, which subsequently must be followed with implementation;
- Certain findings, such as inspections of track, LRV and the catenary, involve work performed by Alstom employees. Therefore, such remedial actions require the engagement of both RTM and Alstom, thus requiring additional engagements, dependencies and collaboration. Further, such inspections have been the subject of persistent issues identified by OC Transpo's oversight, as well as the RMCO's 2020 and 2022 monitoring activities.
- Therefore such findings remain open until data and objective evidence demonstrate that they are resolved conclusively.

The 2022 year-end Tables of open findings and their respective remedial actions are presented in Annex 8. These Tables show the following information:

- Since revenue service inception, the RMCO’s monitoring activities have identified a total of 41 findings, of which 24 have been addressed and closed through remedial actions provided by RTM. It should be noted that such closed items remain the subject of ongoing oversight by OC Transpo and monitoring by the RMCO;
- Of the 17 findings which are open, OC Transpo has requested corrective action plans for all such findings, however these are not considered closed until it has been demonstrated that the corrective actions have been implemented and address the findings conclusively. Below is a summary of these 17 findings:
  - o 6 findings relate to the Emergency Response Plan which were identified by the RMCO during Q4-2021 – this area has been the subject of significant development by RTM with imminent completion which will be subsequently followed by implementation;
  - o 10 findings relate to the 2022 RMCO monitoring activities. Such findings have been reviewed in meetings involving OC Transpo, the RMCO and RTM. RTM has provided remedial actions for the 4 findings identified in Q3-2022, and these remain the subject of review by OC Transpo until conclusively resolved. As well, OC Transpo has formally requested remedial actions for the remaining 6 findings which were identified during the latest SeMS monitoring performed in Q4-2022;
  - o 1 finding relates to LRV inspections which have improved substantially since the initial RMCO monitoring performed in 2020. This area is being monitoring closely with reports provided by RTM to OC Transpo until the data / objective evidence confirms a definitive resolution.

During 2023, remedial actions will continue to be the subject of ongoing follow-up by OC Transpo with support from the RMCO.

It is to be noted that the Table in Annex 8 provides remedial actions for contractors only - remedial actions relative to OC Transpo have been covered in Sections 5 and 6 of this Report.

## **8. Monitoring Focus in 2023:**

In accordance with the risk-based approach outlined in Section 3 of this Report, as well as City LRT Regulations, the RMCO will develop monitoring plans to identify areas / Programs to be monitored in 2023.

The risk-based selection process will review the following risk inputs (refer to Subsection 3.2 of this Report):

- Confederation line experience, including safety, security and operations;
- Oversight and monitoring findings, including RMCO monitoring, oversight performed by OC Transpo and oversight / investigations performed other parties;
- Typical hazards / risks and occurrences faced by similar commuter operations (based on research performed and presented in 2018 Work Plan);
- Confederation Line characteristics and regulatory Programs.

On this basis, a monitoring plan will be developed and communicated early during the second quarter of 2023 to provide visibility on the areas to be monitored, as well as the corresponding timelines.

During 2023, the RMCO will continue to perform regulatory monitoring in accordance with the City's mandate using a structured approach and the principles described in Section 3 of this Report.

## **Context / Disclaimers**

This Report, including any enclosures, attachments and annexes, has been prepared for the exclusive use of the City of Ottawa solely for the purpose for which it is provided under the Terms of the Contract executed March 2<sup>nd</sup>, 2018 between SAB Vanguard Consulting Inc. and the City of Ottawa, as well as the supplemental information in Annexes 2, 3 and 9 of this Report.

Any use, decisions or actions taken as a result of this work shall be the responsibility of the parties directly involved in the decisions or actions.

**ANNEXES**

## ANNEX 1

### OTTAWA LIGHT RAIL TRANSIT (OLRT) – REGULATORY BACKGROUND

This Annex provides background information on the Ottawa Light Rail Transit (OLRT) project which is considered in law to be a federal rail transportation undertaking:

On July 14<sup>th</sup>, 2011, Ottawa City Council approved the implementation plan for the Ottawa Light Rail Transit (OLRT) project which is considered in law to be a federal rail transportation undertaking.

Since Federal legislation was not developed for application to municipal light rail systems, the City of Ottawa was provided with the authority to regulate its light rail transit system. This was formalized with a **Delegation Agreement** between the Minister of Transport and the City of Ottawa on October 1<sup>st</sup>, 2011, which provides authority to the City to regulate any matters covered by Part III and IV of the *Canada Transportation Act* as well as the *Railway Safety Act*. This delegated authority applies only to the Confederation Line and does not extend to other OC Transpo operations (i.e. Trillium Line, Bus, Para).

In accordance with the Delegation Agreement, and By-Law No. 2015 – 301, the position of ‘Light Rail Regulatory Monitor and Compliance Officer’ (i.e. ‘Regulatory Monitor and Compliance Officer – RMCO’, or ‘Compliance Officer’) was created to monitor and report on compliance with the Ottawa Light Rail Transit (OLRT) Regulations (i.e. City LRT Regulations); the duties and responsibilities of this position are shown in Annex 2. The Compliance Officer is independent of the Transportation Services department and reports directly to the City Manager and City Council.

The RMCO is tasked with specific responsibilities as follows:

1. Development of a **multi-year Work Plan** for monitoring compliance relative to City LRT Regulations as they relate to the safety and security of the system;
2. Perform ongoing compliance monitoring in accordance with the RMCO mandate and Work Plan;
3. Prepare **Annual Compliance Reports** that describe the specific areas of the regulatory framework that were reviewed during the past year; report on the work that was undertaken to verify compliance in these areas; identify areas where compliance with City LRT Regulations has been fully achieved; and report on areas where compliance has not been fully achieved;
4. **Ongoing monitoring** and reporting of any potential regulatory compliance gaps to the City Manager, in order for City staff to correct any compliance deficiencies.

## **ANNEX 2**

### **REGULATORY MONITOR AND COMPLIANCE OFFICER (RMCO) - DUTIES AND RESPONSIBILITIES**

The following schedule was prepared by the City of Ottawa to describe the duties and responsibilities of the RMCO. It is part of the Contract signed between the City of Ottawa and SAB Vanguard Consulting Inc. on March 2<sup>nd</sup>, 2018.

#### **SCHEDULE "A"**

##### **STATEMENT OF DUTIES AND RESPONSIBILITIES**

The Light Rail Regulatory Monitor and Compliance Officer ("Compliance Officer") is responsible for reviewing, investigating, monitoring and reporting on compliance with the Ottawa Light Rail Transit (OLRT) regulations.

The Compliance Officer will be independent of the Transportation Services Department and will report directly to the City Manager and City Council.

The Compliance Officer will be responsible for the development of a multi-year workplan for monitoring compliance with the OLRT regulations as it relates to the safety and security of the system. The workplan will detail the strategy for the selection of regulations, rules, and procedures to be monitored, the overall methodology to undertake monitoring and reporting, the specific regulatory areas to be monitored, and the timeframes for undertaking the work. The multi-year workplan will be submitted to both the Transit Commission and Ottawa City Council. Prior to developing the multi-year workplan, the Compliance Officer will be required to review and understand the City's comprehensive regulatory framework.

The role is expected to involve monitoring regulatory compliance through site visits, interviews with City staff and contractors, and review of relevant documentation, records, and performance reporting. These tasks are expected to include but not be limited to:

- Reviewing regulations, policies and procedures;
- Conducting interviews and meetings with field staff and senior management;
- Conducting field observations of operations, maintenance and/or safety management activities;
- Reviewing technical submissions;
- Analyzing data and performance records;
- Assessing compliance with regulations;
- Providing timely and accurate advice to staff to consider improvements to the regulations and/or to the implementation and enforcement of regulations when required; and,
- Monitoring implementation of staff recommended improvements, developments and new initiatives in respect to the OLRT Regulations.

The Compliance Officer will prepare an Annual Compliance Report that will describe the specific areas of the regulatory framework that were reviewed during the past year; report on the work that was undertaken to verify compliance in these areas; identify areas where compliance with Regulations has been fully achieved; and report on areas where compliance has not been fully achieved. The Annual Compliance Report will also include any revisions to the multi-year workplan.



After preparing a draft of the report and taking input from the City Manager and affected persons as determined necessary, the Annual Compliance Report will be submitted annually to the City’s Transit Commission and City Council. The City Manager will prepare a Management Response Companion Report that will be considered by Transit Commission and Council alongside the Annual Compliance Report.

The Compliance Officer will also be responsible for quarterly monitoring and reporting of any potential regulatory compliance gaps to the City Manager, in order for City staff to correct any compliance deficiencies.

Please refer to Annexes 3 and 9 of this report for further information on the RMCO responsibilities and regulatory context.

## ANNEX 3

### REGULATORY MONITOR AND COMPLIANCE OFFICER (RMCO) - SUPPLEMENTAL INFORMATION RELATIVE TO SCOPE / RESPONSIBILITIES

In accordance with the Delegation Agreement referenced in Annex 1, and the report submitted to City Council on September 23<sup>rd</sup>, 2015, the duties and responsibilities of the RMCO are described in Annex 2.

In addition, the following information is provided to further clarify the scope and responsibilities of the RMCO:

- The RMCO is responsible for regulatory compliance monitoring for the Confederation Line after revenue service.
- This mandate covers the Confederation Line exclusively and any expansions or extensions to this transit system or other light rail systems. This mandate does **not** cover commuter rail operations such as the Capital / Trillium railway, bus transit operations, or Para Transpo operations.
- The RMCO regulatory compliance monitoring primarily relates to City LRT Regulations adopted by the City through bylaw or by other means, including standards and requirements imposed by Contract. Specifically, the basis for RMCO regulatory monitoring is the 'City Manager Designation' dated 12 February 2021 (refer to Annex 4 of this Report).
- The RMCO was not involved in the construction, implementation, independent safety certification or revenue service availability activities for the Confederation Line.
- RMCO activities consist of performing regulatory compliance monitoring rather than audits. This implies that the assessment of risks, controls, governance, etc. are not part of the RMCO monitoring scope.
- The RMCO monitors compliance relative to City LRT Regulations / Programs on a progressive basis according to monitoring schedules and provides quarterly updates to the City Manager as well as Annual Compliance Reports to City Council and the Transit Commission. This provides a progressive assessment of compliance.
- The development and follow-up for remedial actions required as a result of RMCO monitoring findings are the responsibility of the City. This applies to findings relative to the City's departments (e.g. OC Transpo) as well as contractors.

The following additional information provides further detail on the RMCO monitoring scope:

- The RMCO monitors compliance with operations and maintenance ("O&M") related LRT Regulations by OC Transpo (OCT) as per City Manager Designation (Feb. 12/2021).

- OCT must adopt and implement, provide oversight and direction and maintain records in relation to designated O&M Programs, including the direction to relevant Contractors to do the same and to adhere to Program requirements.
- The RMCO monitors Contractor work activities in relation to the requirements of these O&M Programs as one method of assessing whether OCT is complying with its regulatory obligation to provide meaningful oversight and direction to Contractors in relation to these Programs.
- The RMCO does not: (a) assess the adequacy, sufficiency or effectiveness of Programs or their terms; (b) adjudicate possible legal defaults or breaches by Contractors in the performance of their Program related work activities; or (c) enforce Contractor performance obligations.
- The RMCO will be guided by OCT interpretations of Program requirements in monitoring and reporting on conformance by Contractors with their P.A. (Project Agreement) related obligations, including in relation to OCT requested remedial actions by Contractors.
- OCT management, together with internal and/or external legal support, will determine whether RMCO findings of non-conformance according to any of the categories described in the Report Tables (refer to Sections 5 and 6 of this Report), on their own or on a cumulative, sustained or unrectified basis, constitute a contractual default or breach by Contractor according to relevant contract terms.
- The RMCO's findings are primarily intended to assist OCT and its Contractors in making ongoing improvements to the performance of Program work activities, including OCT oversight practices. These findings are not intended to ascribe legal fault or failure.

## **ANNEX 4**

### **EXCERPTS FROM CITY LRT REGULATIONS– APPENDIX B OF ‘CITY MANAGER DESIGNATION’ DATED FEB. 12, 2021**

The following excerpt from the ‘City Manager Designation’ is provided because of its relevance to the regulatory monitoring activities performed by the RMCO.

#### **APPENDIX B – MASTER LIST OF LRT REGULATIONS**

**UPDATED AS OF: February 11, 2021**

**Introduction:** The City’s delegated self –regulatory regime is based fundamentally on:

- (a) City imposed obligations on various City Departments to adopt and manage specified programs, plans, procedures and practices in relation to LRT Railways, currently Line 1 - Confederation Line (collectively “**Programs**”); and
- (b) the City’s reliance on various oversight mechanisms, procedures and practices that the City has adopted to manage or direct those persons who are responsible for complying with the requirements of these Programs.

#### **1. OC Transpo Programs**

**1.1 LRT Regulation:** OC Transpo shall generally follow and apply Good Industry Practice in:

- (a) approving, adopting, confirming, or otherwise implementing, and overseeing the administration of, the Programs described in paragraph 1.3 below (the “**OCT Programs**”);
- (b) providing the necessary oversight and direction to OC Transpo employees, Contractors and other persons over whom it has lawful authority to ensure timely compliance with the requirements of the OCT Programs; and
- (c) monitoring, maintaining records, providing access to records and responding to enquiries from the RMCO and reporting to the City Manager, in relation to the compliance with the OCT Programs by those who are responsible for compliance;

For the purposes of subparagraph (b) above, to the extent relevant, OC Transpo should generally require applicable Contractors (and their applicable Subcontractors) to:

- (i) adopt and maintain in place plans, programs, procedures and practices that are substantially consistent with the OCT Programs to the extent applicable to the Contractor’s scope of required work in relation to the LRT Railway; and
- (ii) maintain and provide access to records to, and to respond to enquiries from, the RMCO, OCT Director and/or the City Manager in relation to compliance with the foregoing plans, programs, procedures and practices.

**1.2 Reference Information:** The OCT Programs, and the Supplementary Documents that provide additional background reference and guidance information relevant to the OCT Programs, are available from the OCT Director (or designate) on a demonstrated, as needed basis.

**1.3 OCT Programs:** include the:

- (a) Safety Management System Plan (SMS)
- (b) Security Management System Plan (SeMS)
- (c) Threat and Vulnerability Assessment System (T&VA)
- (d) Standard Operating Procedures (SOP)
- (e) LRT Operating Rules and Procedures
- (f) Maintenance and Rehabilitation Plan
- (g) Light Rail Vehicles – Maintenance Plan
- (h) Rates and Terms of Service
- (i) Accident and Safety Incidents – Reporting Requirements
- (j) Mobility Requirements (aligned with TC requirements); and
- (k) Other Programs - that the City Manager may direct OC Transpo to adopt from time to time.

**Note:** *for clarity, the Federal Government has retained primary regulatory authority and responsibility over mobility matters in relation to LRT Railways. Accordingly, as per (j) above OCT has adopted a program and practice that requires compliance with these federal requirements.*

## **ANNEX 5**

### **RISK-BASED APPROACH FOR MONITORING**

#### **Risk-Based Selection of Areas / Regulations to Monitor:**

As described in Section 3 of this Report, a number of factors are considered in the risk-based selection of Regulations / Programs to be monitored - this is summarized below:

- 1) Research relative to hazards and risks for commuter operations (refer to Work Plan);
- 2) Research and analysis relative to incident / accident data for commuter operations (refer to Work Plan);
- 3) Consideration for Confederation Line characteristics (e.g. technology and infrastructure) as well as Regulations and Program documents;
- 4) Consideration for Confederation Line experience (e.g. incidents / accidents, service issues etc.);
- 5) Consideration for internal and external oversight activities (e.g. RMCO monitoring, OC Transpo oversight) as well as audits.

This approach is dynamic since key inputs such as those identified in items 4 and 5 (above) are reviewed periodically to better understand risk and to make appropriate selections for Programs to monitor. In this manner, such inputs are considered in the ongoing risk-based selection of Programs to be monitored.

#### **Overview of Potential Hazards / Risks:**

The City mandate for the RMCO states that the focus of regulatory monitoring is on safety and security. As such, related risks can result from multiple sources (hazards), each with their respective potential probability (i.e. likelihood) and consequence (i.e. severity).

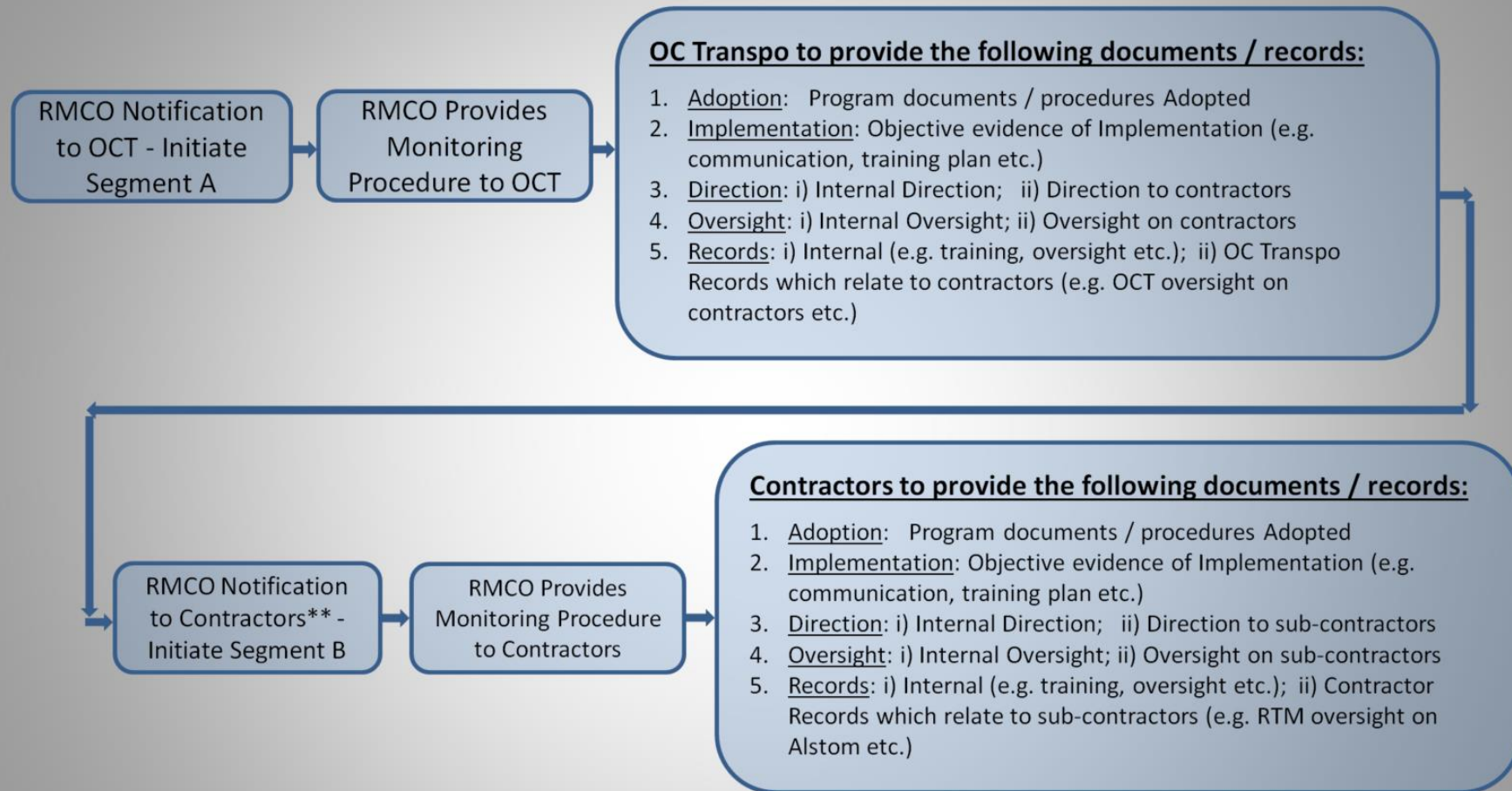
The multi-year Work Plan presented research performed on potential hazards, accident / incident causes for commuter operations, and other relevant research. This enabled the identification of the following broad hazard / risk categories:

- Human Factors;
- Security Management System and Emergency Procedures;
- Safety Management System;
- Rolling stock inspection / maintenance (i.e. light rail vehicles);
- Track inspection / maintenance;
- Other equipment / infrastructure, environmental and other.

The above risk areas and the corresponding 'OCT Programs' identified in City LRT Regulations are the focus of the RMCO's regulatory monitoring activities.

## ANNEX 6

### RMCO MONITORING APPROACH\*



\* Monitoring approach designed to be aligned with City Regulations. Each monitoring area is to be monitoring in two segments: i) Segment A involves only OCT; ii) Segment B involves contractors.

\*\* RMCO to notify primary contractor (RTM) who will be responsible to engage subcontractors.

# ANNEX 7

## Monitoring Timelines - 2022

### Timeline for Monitoring of Inspections (Track, LRV and Catenary):

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
<b>SEGMENT 1 (OC TRANSP0)</b>												
1. RMCO DEVELOP MONITORING PLAN												
2. RMCO DEVELOP MONITORING PROCEDURE												
3. RMCO NOTIFICATION TO OC TRANSP0 - PLAN					▲							
4. RMCO NOTIFICATION TO OC TRANSP0 - PROCEDURE AND REQUEST FOR DOCUMENT / RECORDS					▲							
5. RMCO RECEIVES DOCUMENTS / RECORDS						▲						
6. RMCO REVIEW / ANALYSIS												
7. RMCO MONITORING - MEETINGS, INTERVIEWS etc.												
8. RMCO ANALYSIS OF MONITORING FINDINGS												
9. RMCO REVIEWS PRELIMINARY FINDINGS WITH OCT							▲					
10. COMPLETE FINDINGS / REQUEST REMEDIAL ACTIONS							▲					

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
<b>SEGMENT 2 ( CONTRACTORS)</b>												
1. RMCO DEVELOP MONITORING PLAN												
2. RMCO DEVELOP MONITORING PROCEDURE												
3. RMCO NOTIFICATION TO CONTRACTORS - PLAN					▲							
4. RMCO NOTIFICATION TO CONTRACTORS - PROCEDURE AND REQUEST FOR DOCUMENTS/ RECORDS					▲							
5. RMCO RECEIVES DOCUMENTS / RECORDS						▲						
6. RMCO REVIEW / ANALYSIS												
7. RMCO MONITORING - MEETINGS, INTERVIEWS etc.												
8. RMCO ANALYSIS OF MONITORING FINDINGS												
9. RMCO REVIEWS PRELIMINARY FINDINGS WITH CONTRACTORS								▲				
10. COMPLETE FINDINGS / REQUEST REMEDIAL ACTIONS								▲				

\* RMCO Monitoring Focus for 2022 Segments 1 and 2: Inspections of LRV's, Track and Catenary where gaps were identified in 2020 (i.e. track Inspections: D1, D2, D3, D5, D9; LRV, Catenary Inspections: D1, D3)



**Timeline for Monitoring of Security Management System:**

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
<b>SEGMENT 3 (OC TRANSP)</b>												
1. RMCO DEVELOP MONITORING PLAN									■			
2. RMCO DEVELOP MONITORING PROCEDURE									■			
3. RMCO NOTIFICATION TO OC TRANSP - PLAN										▲		
4. RMCO NOTIFICATION TO OC TRANSP - PROCEDURE AND REQUEST FOR DOCUMENT / RECORDS										▲		
5. RMCO RECEIVES DOCUMENTS / RECORDS											▲	
6. RMCO REVIEW / ANALYSIS											■	
7. RMCO MONITORING - MEETINGS, INTERVIEWS etc.											■	
8. RMCO ANALYSIS OF MONITORING FINDINGS											■	
9. RMCO REVIEWS PRELIMINARY FINDINGS WITH OCT												▲
10. COMPLETE FINDINGS / REQUEST REMEDIAL ACTIONS												▲

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
<b>SEGMENT 4 ( CONTRACTORS)</b>												
1. RMCO DEVELOP MONITORING PLAN									■			
2. RMCO DEVELOP MONITORING PROCEDURE									■			
3. RMCO NOTIFICATION TO CONTRACTORS - PLAN										▲		
4. RMCO NOTIFICATION TO CONTRACTORS - PROCEDURE AND REQUEST FOR DOCUMENTS/ RECORDS										▲		
5. RMCO RECEIVES DOCUMENTS / RECORDS											▲	
6. RMCO REVIEW / ANALYSIS											■	
7. RMCO MONITORING - MEETINGS, INTERVIEWS etc.											■	
8. RMCO ANALYSIS OF MONITORING FINDINGS											■	
9. RMCO REVIEWS PRELIMINARY FINDINGS WITH CONTRACTORS												▲
10. COMPLETE FINDINGS / REQUEST REMEDIAL ACTIONS												▲

\* RMCO Monitoring Focus for 2022 Segments 3 and 4: Security Management System (SeMS)

## ANNEX 8 - STATUS OF RMC0 FINDINGS AND REMEDIAL ACTIONS

<b>RMCO MONITORING FINDINGS - STATUS DEC. 31, 2022</b>				
<b>REGULATORY AREA / PROGRAM</b>	<b>PERIOD MONITORED</b>	<b>NUMBER OF FINDINGS</b>	<b>NUMBER OF FINDINGS CLOSED*</b>	<b>NUMBER OF FINDINGS OPEN</b>
RULES TRAINING - OPERATING EMPLOYEES	Q4 - 2019	1	1	0
TRACK INSPECTIONS	Q1 / Q2 - 2020	8	8	0
LRV INSPECTIONS	Q3 / Q4 - 2020	5	4	1
CATENARY INSPECTIONS	Q3 / Q4 - 2020	5	5	0
SMS	Q2 / Q3 - 2021	6	6	0
ERP	Q4 - 2021	6	0	6
INSPECTIONS LRV, TRACK, CATENARY	Q2 / Q3 - 2022	4	0	4
SECURITY MANAGEMENT SYSTEM	Q4 - 2022	6	0	6
	<b>TOTAL</b>	<b>41</b>	<b>24</b>	<b>17</b>

Please refer to the next pages for details on open RMC0 findings.

**SUMMARY OF RMCO MONITORING FINDINGS AND REMEDIAL ACTIONS STATUS\***

December 31, 2022

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Finding #	Area Monitored	Monitoring Period	Finding Description	Relevant Program Document(s)	Status (23 Dec. 2022)	Comments / Next Steps Requested by OC Transpo
<u>15</u>	LRV Inspections	Q3-Q4 2020	<b>2020N</b> (Segment 3/4, Finding D1) - <b>LRV Scheduled Inspections.</b> Alstom to <i>develop and implement process to ensure that LRV's obtain scheduled inspections within prescribed mileages / tolerances, and that appropriate dispositions are taken when such is exceeded.</i>	Ottawa Light Rail Transit Maintenance and Rehabilitation Plan - RTM-MC-PLN-042 Section 16.1 and Light Rail Vehicle Safety and Inspection Rules (RTM-ENG-RUL-172) Section 8.	OPEN	1) Remedial actions provided by RTM / Alstom have been reviewed by OC Transpo; 2) OC Transpo requested quarterly LRV inspection report to monitor execution of inspections; 3) Finding will be closed when OC Transpo confirms that objective evidence demonstrates that LRV inspections are complete.
<u>26</u>	Emergency Response	DEC-FEB. 2022	<b>2022-1A Program Development:</b> Emergency Response Plan to be updated in accordance with P.A. requirements	P.A. Schedule 15-2 Part 1 Article 11	OPEN	RTM provided draft ERP dated 15 Sept. entitled "Belfast Yard Emergency Response Manual" (RTM-OP-237), as well as an updated ERP dated Nov. 15 which is under review. Finalization and Implementation in progress.
<u>27</u>	Emergency Response	DEC-FEB. 2022	<b>2022-2A Implementation:</b> Emergency Response Plan training to be expanded to cover key information such as evacuation routes	P.A. Schedule 15-2 Part 1 Article 11	OPEN	ERP finalization and Implementation in progress.
<u>28</u>	Emergency Response	DEC-FEB. 2022	<b>2022-3A Direction Internal:</b> Internal Direction to cover all personnel including management through communication / awareness.	P.A. Schedule 15-2 Part 1 Article 11	OPEN	ERP finalization and Implementation in progress.
<u>29</u>	Emergency Response	DEC-FEB. 2022	<b>2022-3B Direction Subcontractors:</b> Direction to Contractors to include applicable ERP requirements through RFP process.	P.A. Schedule 15-2 Part 1 Article 11	OPEN	ERP finalization and Implementation in progress.
<u>30</u>	Emergency Response	DEC-FEB. 2022	<b>2022-4B Oversight / Monitoring Subcontractors:</b> Oversight / Monitoring Plan to be provided for subcontractor ERP requirements.	P.A. Schedule 15-2 Part 1 Article 11	OPEN	ERP finalization and Implementation in progress.
<u>31</u>	Emergency Response	DEC-FEB. 2022	<b>2022-5C Records Monitoring:</b> Oversight / Monitoring Plan for ERP to identify how records will be maintained.	P.A. Schedule 15-2 Part 1 Article 11	OPEN	ERP finalization and Implementation in progress.

<p><b><u>32</u></b></p>	<p><b>Inspections of LRV, Track and Catenary</b></p>	<p>JUNE - AUG. 2022</p>	<p><b><u>2022-6 Training of Employees Involved in Inspections of Track, Catenary and LRV :</u></b>                  .....  <b>Finding:</b> A majority of employees monitored were missing some mandatory courses</p>	<p>i) P.A. Schedule 15-3 Maintenance and Rehabilitation Requirements;                  ii) City adopted Program "Maintenance and Rehabilitation Plan RTM-MC-PLN-042";                  iii) City adopted Program "Track Safety and Inspection Rules RTM-ENG-RUL-132"</p>	<p><b>OPEN</b></p>	<p>1) Remedial actions provided by RTM / Alstom have been reviewed by OC Transpo;                  2) OC Transpo requested quarterly training delivery report to monitor training execution;                  3) Finding will be closed when OC Transpo confirms that objective evidence demonstrates that training delivery is complete.</p>
<p><b><u>33</u></b></p>	<p><b>Inspections of LRV, Track and Catenary</b></p>	<p>JUNE - AUG. 2022</p>	<p><b><u>2022-7 Inspections of LRV's:</u></b>                  .....  <b>Finding:</b> LRV mileage inspections generally conformant, but about 30% of sample monitored show 10K inspections performed beyond 5% allowable tolerance.</p>	<p>i) P.A. Schedule 15-3 Maintenance and Rehabilitation Requirements;                  ii) City adopted Program "Maintenance and Rehabilitation Plan RTM-MC-PLN-042";                  iii) City adopted Program "Track Safety and Inspection Rules RTM-ENG-RUL-132"</p>	<p><b>OPEN</b></p>	<p>1) Remedial actions provided by RTM / Alstom have been reviewed by OC Transpo;                  2) OC Transpo requested quarterly LRV inspection report to monitor execution of inspections;                  3) Finding will be closed when OC Transpo confirms that objective evidence demonstrates that LRV inspections are complete.</p>
<p><b><u>34</u></b></p>	<p><b>Inspections of LRV, Track and Catenary</b></p>	<p>JUNE - AUG. 2022</p>	<p><b><u>2022-8 Inspections of Track (i.e. Guideway):</u></b>                  .....  <b>Finding:</b> Monitoring of Track inspections show about 30% of records missing for three types of inspections (3 month mainline, 1 day mainline, 1 month turnout) and 15% of records missing for 3 day mainline inspections. Track inspections relative to extreme weather were conformant.</p>	<p>i) P.A. Schedule 15-3 Maintenance and Rehabilitation Requirements;                  ii) City adopted Program "Maintenance and Rehabilitation Plan RTM-MC-PLN-042";                  iii) City adopted Program "Track Safety and Inspection Rules RTM-ENG-RUL-132"</p>	<p><b>OPEN</b></p>	<p>1) Remedial actions provided by RTM / Alstom have been reviewed by OC Transpo;                  2) OC Transpo requested quarterly Track inspection report to monitor execution of inspections;                  3) Finding will be closed when OC Transpo confirms that objective evidence demonstrates that Track inspections are complete.</p>
<p><b><u>35</u></b></p>	<p><b>Inspections of LRV, Track and Catenary</b></p>	<p>JUNE - AUG. 2022</p>	<p><b><u>2022-9 Inspections of Catenary / OCS:</u></b>                  .....  <b>Finding:</b> Monitoring of Catenary inspections show 5 of 12 records missing for 6 month OCS tensioning WMS002, and 3 of 12 records missing for two types of inspections (6 month WMS001 and 1 year WMS005). As well, inspection records for 2M inspections identified 2 inspections which were done late.</p>	<p>i) P.A. Schedule 15-3 Maintenance and Rehabilitation Requirements;                  ii) City adopted Program "Maintenance and Rehabilitation Plan RTM-MC-PLN-042";                  iii) City adopted Program "Track Safety and Inspection Rules RTM-ENG-RUL-132"</p>	<p><b>OPEN</b></p>	<p>1) Remedial actions provided by RTM / Alstom have been reviewed by OC Transpo;                  2) OC Transpo requested quarterly OCS inspection report to monitor execution of inspections;                  3) Finding will be closed when OC Transpo confirms that objective evidence demonstrates that OCS inspections are complete.</p>

36	Security Management System	OCT. - DEC. 2022	<p><u>2022-10 Employee Security Verifications:</u></p> <p><b>Finding:</b> Employee Security verifications do not appear to be performed in accordance with P.A. and RTM SeMP requirements.</p>	<p>i) P.A (Sched. 15-3, Article 5.3); ii) RTM SeMP (4.13).</p>	OPEN	
37	Security Management System	OCT. - DEC. 2022	<p><u>2022-11 SeMP Annual Reviews:</u></p> <p><b>Findings:</b> RTM SeMP is dated 2019 - annual reviews do not appear to be done in accordance with RTM SeMP requirements.</p>	<p>i) RTM SeMP 1.6</p>	OPEN	
38	Security Management System	OCT. - DEC. 2022	<p><u>2022-12 Employee Security Training:</u></p> <p><b>Finding:</b> Training currently being delivered but is focused on 'Health and Safety' and 'SMS'. Training material to be updated to meet requirements of P.A. and RTM SeMP. Elements to consider adding: i) Name of training to state 'Health, Safety and Security'; ii) SeMP overview; iii) Need for employees to undergo security verification etc.</p>	<p>i) P.A. Schedule 15-3, Article 5.2 (b) (ii) (B); ii) RTM SeMS SECTION 4.14.2.</p>	OPEN	
39	Security Management System	OCT. - DEC. 2022	<p><u>2022-13 Fence Intrusion Detection System:</u></p> <p><b>Finding:</b> Fence Intrusion Detection System (FIDS) does not appear to be operational as per RTM SeMP.</p>	<p>i) RTM SeMP 4.7</p>	OPEN	
40	Security Management System	OCT. - DEC. 2022	<p><u>2022-14 Direction to Subcontractors:</u></p> <p><b>Finding:</b> Direction to subcontractors does not appear to refer to RTM SeMP or key initiatives such as employee security verifications. Applicable SeMP requirements to be conveyed to subcontractors.</p>	<p>i) P.A. Sched. 15-3 Article 5 and 15-4; ii) RTM SeMP 1.2</p>	OPEN	
41	Security Management System	OCT. - DEC. 2022	<p><u>2022-15 SeMP Program Oversight and Records:</u></p> <p><b>Finding:</b> The information provided by RTM indicates that operational monitoring is being done by YCC's. However this does not cover 'Program Oversight' for SeMP (i.e. how does RTM monitor SeMP responsibilities such as employee security verifications, subcontractor conformance, annual reviews etc.)?. Associated Records required.</p>	<p>i) P.A. Sched. 15-3 Article 5, 5.2(b)(II) ; II) and 15-4; ii) RTM SeMP section 4</p>	OPEN	

**\* Footnotes:**

1. OC Transpo requests that RTG / RTM provide remedial actions for each RMCO Finding in accordance with established process.
2. Remedial actions are reviewed and assessed by OC Transpo
3. The status of remedial actions and required next steps are determined by OC Transpo
4. Closed Items remain subject to OC Transpo Oversight and RMCO monitoring

## ANNEX 9 - REGULATORY AND LEGAL CONTEXT

The information below is provided to further assist readers with a proper review of this Report. This provides guidance regarding the limits on the scope of the RMCO's monitoring work; the monitoring and oversight work carried out and confirmed by others; and the coordinated interplay between these various oversight functions:

**1. Limited Scope:** The RMCO only monitors OC Transpo (OCT) regulatory compliance obligations and commenced doing so after revenue service inception.

This means the RMCO Monitoring is limited to operations and maintenance (O&M) activities and OCT's compliance with its LRT regulatory obligations (i.e. adopt, implement, provide direction, oversight and maintain records relative to designated Programs).

**2. Other Compliance Monitoring:** The monitoring and reporting of compliance with LRT Regulations applicable to other Confederation Line activities and other designated Programs, is carried out by designated representatives for the other City Departments responsible for these other activities.

These other activities include design, construction, testing and commissioning activities, property planning and land management matters, oversight of accident and safety incident investigations and other LRT regulatory management matters.

**3. Review of Contractor Performance:** There are no LRT Regulations that apply to contractors directly. The LRT Regulations only apply to OCT and other City Departments.

The RMCO reviews contractor work activities as one method by which to assess whether or not OCT is complying with its LRT regulatory obligation to provide responsible oversight and direction to the contractors regarding their compliance with O&M related Programs (e.g. SMS Plan, SeMS Plan, Maintenance and Rehabilitation Plan etc.).

**4. Interplay with Other Oversight Activities:** The RMCO obtains information from, and periodically exchanges observations and insights regarding contractor work activities, with OCT who are involved with contract oversight procedures and practices to the extent these relate to the O&M matters and Programs being monitored by the RMCO.

This provides the RMCO with an opportunity to compare and cross check his findings with the findings arising from these other oversight functions.

There is however no expectation that the findings of the RMCO for a particular reviewed O&M segment at a particular point in time will fully align with the findings from these other oversight functions because of differences in the:

- (a) Timing of the monitoring, oversight and reporting activities;
- (b) The nature and scope of the RMCO monitoring work compared to the OCT and RCP contract oversight investigations and reviews; and
- (c) The nature and scope of the information being relied upon in these different proceedings (e.g. prescriptive PA related performance metrics and reports versus

tailored information requests, inspections, interviews and other RMCO required information identified at time of review).

**5. Compliance Categories:** Included with the Table of Findings at each of paragraphs 5.4.1 and 6.2.1, as well as Annex 3 of this Report, is an Explanatory Note attachment that provides further guidance regarding the:

- Difference between compliance findings for OCT versus conformance findings for the contractor being monitored (e.g. RTM)
- Different levels of compliance and non – compliance (i.e. fully, partial, mostly and not)
- Threshold level of findings (by reference to severity, frequency, rectification response and other factors) that could possibly result in a declared breach of a LRT Regulation
- Limited role of the RMCO in a declared breach situation in the context of a self – regulatory model of regulation

**6. Conformance Categories:** Included with the Table of Findings at each of paragraphs 5.4.2 and 6.2.2, as well as Annex 3 of this Report, is an Explanatory Note attachment that provides further guidance regarding the:

- Difference between conformance findings for RTM versus compliance findings for OCT
- Different levels of contract conformance and non-conformance (i.e. fully, partial, mostly and not)
- Threshold level of findings (by reference to severity, frequency, rectification response and other factors) that could possibly result in a declared breach of a term of the PA
- Limited role of the RMCO in a declared contract breach or default situation

**7. Limits on RMCO Role:** The RMCO monitors and reports on compliance with LRT Regulations that apply to OCT (i.e. adopt, implement, provide direction, oversight and maintain records relative to designated Programs). There are related activities and responsibilities which are not assigned to or vested with the RMCO:

*(a) No Enforcement of Regulations:* The RMCO is not a regulatory officer with powers to enforce compliance by OCT with LRT Regulations.

In a self – regulatory model of regulation enforcement against OCT (and other City Departments) is the responsibility of the City Manager or designate as the senior regulatory officer for the City.

Enforcement and / or corrective actions that may be taken or directed by the City Manager at her/his discretion will most likely be process and continuous improvements, and / or employer/employee based (e.g. possible directions to rectify, reprimands, compensation adjustments, warnings, suspension, termination or other).

*(b) No P.A. (i.e. Project Agreement) Enforcement:* The RMCO does not enforce conformance with PA obligations by RTG/ RTM or other contractors. This is the responsibility of the City through designated OCT/RCP representatives and according to PA remedies and recourse rights in favor of the City.

The RMCO however will confer with OCT and RTG/RTM representatives regarding potential PA enforcement matters in relation to outstanding remedial actions and plans as part of the RMCO's ongoing monitoring of OCT's oversight and direction responsibilities.

*(c) No Auditing:* The RMCO is not a safety and/or security auditor. These audits are carried out on a scheduled basis by other contracted professional safety and security plan audit firms.

*(d) No Adjudication:* The RMCO does not make legal determinations regarding possible breaches or non-compliances with LRT Regulations. This is the responsibility of OCT and RCP management, City legal advisors (internal/external) and potentially a formally appointed adjudicator and/or Court.

*(e) No Assessment:* The RMCO does not assess the adequacy, suitability or completeness of the LRT Regulations or the terms of the PA and is not required or expected to make recommendations for change.

This is the responsibility of the City Manager with input and recommendations from designated representatives for the City Departments who have the responsibility to comply with LRT Regulations.

*(f) Informal Observations:* The RMCO may, but is not required to, provide informal non-binding observations and insights in relation to any of the above and in relation to other Confederation Line activities, developments or matters on a voluntary basis in the course of carrying out the RMCO mandated work activities.