



RMCO ANNUAL COMPLIANCE REPORT FOR 2023

REGULATORY MONITOR AND COMPLIANCE OFFICER

Transit Commission Meeting

April 11th, 2024

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Regulatory Monitor and Compliance Officer

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RMCO Background

- RMCO for City of Ottawa since March 2018:
 - Started regulatory compliance monitoring in September 2019 (after revenue service)
- Experience:
 - More than 40 years in the railway sector
 - Including passenger and commuter service
 - Worked in several positions in operations and corporate departments
 - Worked in CN Rail for 35 years and retired in 2017 as Vice President of Safety and Sustainability
- Education:
 - Bachelors / Masters in Engineering and MBA from McGill university
- Expertise:
 - Safety, Operations, Regulations, Auditing / Monitoring, Safety Management Systems, Safety Culture
- Member of IIA (Institute of Internal Auditors)

RMCO Scope / Mandate

- RMCO position created as part of Delegation Agreement
- RMCO Mandate / Scope:
 - Monitoring of regulatory compliance for safety and security;
 - Confederation line only;
 - Encompassing OC Transpo and Contractors;
 - Monitoring started **after** revenue service;
 - RMCO does **not** perform audits and does **not** assess:
 - Safety or risks;
 - Adequacy of Regulations, equipment or technology;
 - Contractor competence.
- RMCO monitoring represents one of several layers of oversight in the City's Regulatory Regime

Regulatory Monitoring Approach

➤ Regulatory Monitoring Approach:

- Monitoring compliance relative to City LRT Regulations
 - OC Transpo has regulatory responsibilities;
 - Contractors have contractual responsibilities with respect to LRT Regulations
- Risk-based selection of areas to monitor
- Monitoring is structured and transparent:
 - Advanced notification;
 - Monitoring procedures;
 - Fact and evidence-based assessment of compliance

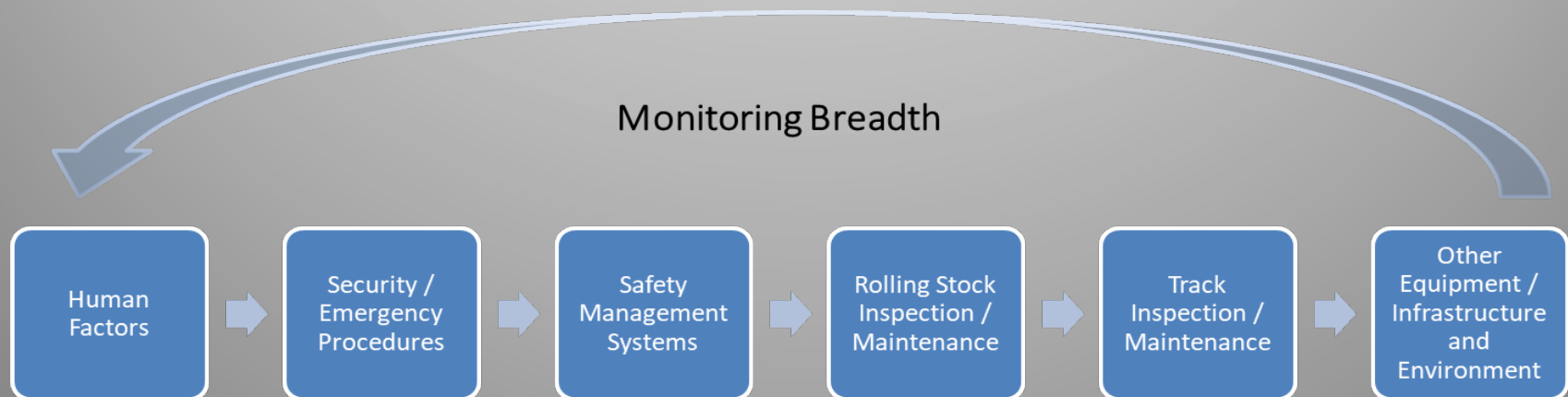


Areas Monitored in 2023

➤ Areas monitored in 2023:

AREAS MONITORED	Period
Tunnel Inspections (3 tunnels, 8 components)	Q2-Q3 2023
Inspections of Communications-Based Train Control (CBTC)	Q4 2023

➤ All 6 risk areas monitored since revenue service:



RMCO Monitoring Performed Since RSA - Recap

2019



TRAINING - ELROR

2020

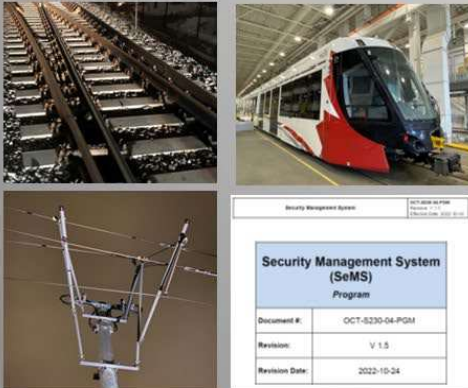


TRACK, CATENARY, LRV MAINTENANCE

2021



SMS, EMERGENCY MGMT



TRACK, CATENARY, LRV REVISIT & SECURITY MGMT SYSTEM

2022



TUNNELS & CBTC INSPECTIONS

2023

To be determined on the basis of risk analysis

2024

RMCO Activities - 2023

RMCO Activities - 2023

Regulatory Monitoring:

- 1) Monitored OC Transpo and RTM – 2 key areas:
 - Inspections of tunnels
 - CBTC inspections
- 2) Risk-based analysis
- 3) Monitoring procedures
- 4) Review / analysis of documents and records, interviews and field observations

Remedial Actions:

- Analysis, engagements with OCT and RTM, ongoing monitoring and support to drive resolution of Findings

Reporting:

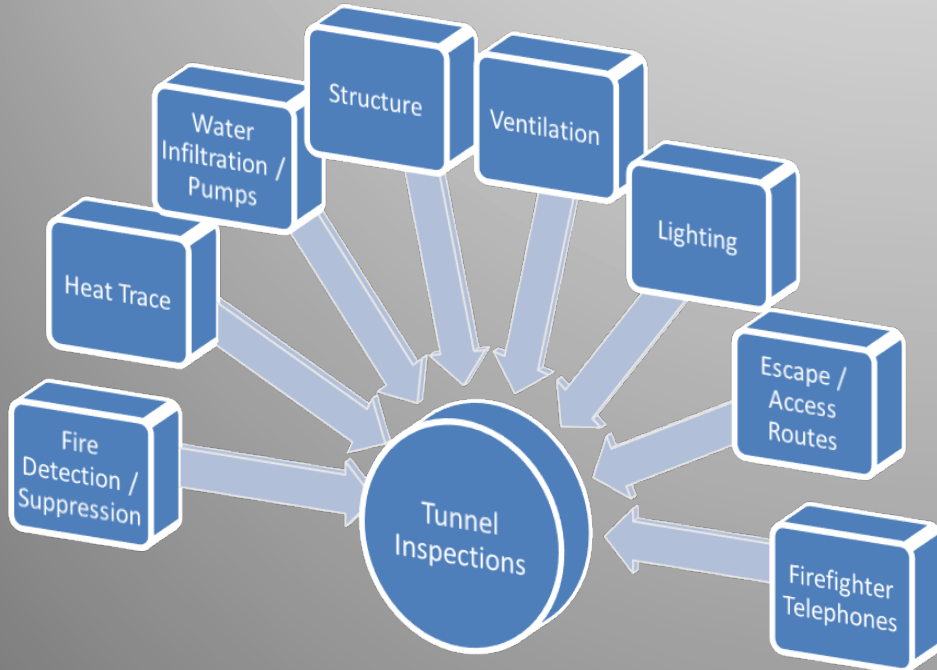
- 1) Quarterly City Manager meetings / updates
- 2) Annual Compliance Report

Monitoring of Tunnel Inspections

➤ Monitoring encompassed:

- 3 tunnels in the Confederation Line
- 8 tunnel components which are important for safe and reliable operations

Tunnel Components Monitored



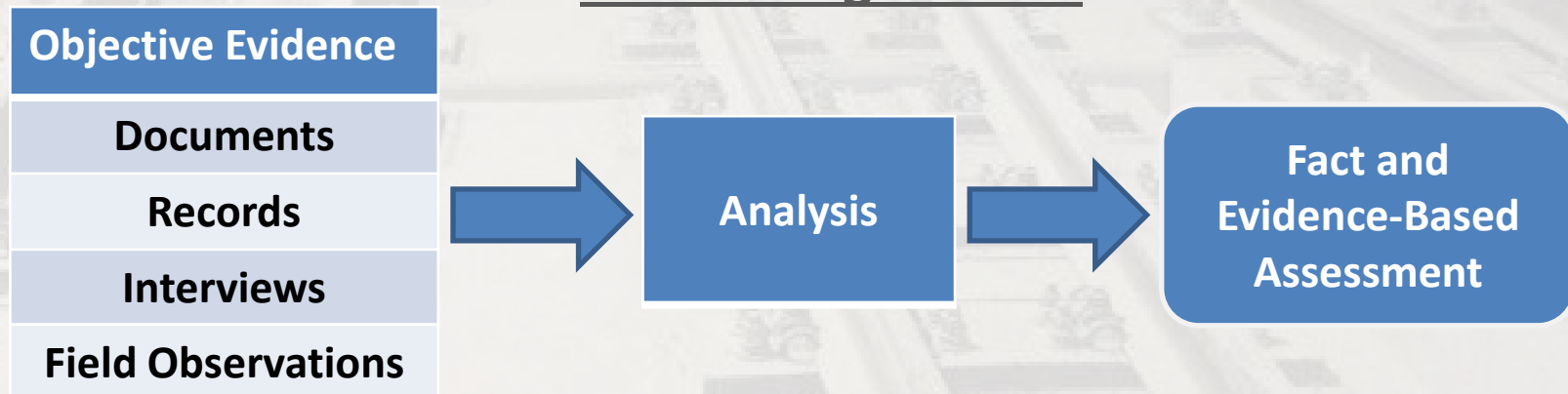
Tunnels Monitored



Monitoring of Tunnel Inspections

- Monitoring focus
 - OC Transpo's regulatory responsibilities (i.e. slide 5)
 - Execution of inspections (performed mostly by RTM / Alstom)
- Monitoring time frame
 - Monitoring performed from May – September 2023
 - Documents / records requested for period Jan. 2022 – March 2023
- Good collaboration by all stakeholders
- Substantive submissions - about 400 documents / records provided

Monitoring Process



RMCO Monitoring Findings for OC Transpo - Tunnel Inspections

- **Regulatory Compliance Findings for OC Transpo – Summary** (refer to Annex 1 for details):

8 Elements Monitored

Adoption / Implementation	Direction	Oversight	Records
3 Elements - Compliant	1 Element - Compliant	3 Elements - Compliant	1 Element - Compliant

- **Comments:**

- Monitoring activities focused on OC Transpo’s regulatory responsibilities
- **8 elements monitored – all compliant**
- Review / analysis of objective evidence shows the following;
 - **Adoption:** Program entitled “Maintenance and Rehabilitation Plan” as well as supplementary documents (e.g. “Asset Management Plan” App. B8)
 - **Direction:** Project Agreement (Sched. 15-3 Appx. A, Att. 8) and contractual correspondence
 - **Oversight:** substantive oversight plan, specific schedules and dedicated personnel
 - **Records:** Oversight Records, procedures, Program documents.

RMCO Monitoring Findings for RTM - Tunnel Inspections

- Findings for RTM / Subcontractors – Summary (refer to Annex 2 for details):

10 Elements Monitored		
Direction	Implementation	Oversight
1 Element - Conformant	3 Elements (inspection types) - Conformant	1 Element - Conformant
	5 Elements (inspection types) - Mostly Conformant	

➤ **Comments:**

10 elements monitored – 5 conformant and 5 mostly conformant:

- 1) **Direction (conformant):** 19 procedures cover inspection of each tunnel component
- 2) **Implementation:** reviewed inspection records to determine if requirements for each component were met.
 - **3 components conformant:** i) tunnel structure; ii) heat trace; iii) escape routes
 - **5 components mostly conformant:** i) Fire detection and suppression (FDAS); ii) Pumps; iii) Tunnel ventilation system (TVS); iv) Fire telephones; v) Lighting
- 3) **Oversight (conformant):** RTM using structured audits – 6 reports provided

Monitoring of CBTC Inspections

- Communications Based Train Control (i.e. CBTC) plays a major role in the safe and reliable operation of trains by mitigating key risks
- CBTC system made by Thales
- CBTC inspected / maintained mostly by Alstom (subcontract from RTG / RTM)
- Specific requirements in Project Agreement (Schedule 15-2, Part 4, Article 5)
- Monitoring time frame:
 - Monitoring performed from September – December 2023
 - Documents / records requested for period Jan. 2022 – June 2023
- Good collaboration by all stakeholders
- Substantive submissions - about 900 documents / records provided



RMCO Monitoring Findings for OC Transpo - CBTC Inspections

- **Regulatory Compliance Findings for OC Transpo – Summary** (refer to Annex 3 for details):

5 Elements Monitored			
Adoption	Direction	Oversight	Records
1 Element - Compliant	1 Element - Compliant	1 Element - Compliant	1 Element - Compliant
		1 Element - Mostly Compliant	

- **Comments:**

- 5 elements monitored – 4 compliant, 1 mostly compliant
- Review / analysis shows compliant Findings for the following elements;
 - **Adoption:** Program entitled “Maintenance and Rehabilitation Plan” as well as supplementary documents (e.g. “Asset Management Plan” App. B2)
 - **Direction:** Project Agreement (Sched. 15-2 Part 4 and Sched. 15-3) and contractual correspondence
 - **Records:** Oversight Records, procedures, Program documents.

RMCO Monitoring Findings for OC Transpo - CBTC Inspections (cont'd)

➤ Oversight:

- OC Transpo has a substantive oversight plan
- Specific oversight schedules cover CBTC - updated annually / quarterly
- Dedicated personnel performing oversight
- OCT does not appear to be performing oversight of training for employees performing CBTC inspections. This is an area where conformance gaps were identified (refer to next slide)

➤ Action taken:

- OC Transpo's 2024 Oversight Plan has been enhanced to encompass the monitoring of training for technicians performing CBTC inspections

RMCO Monitoring Findings for RTM - CBTC Inspections

- Findings for RTM / subcontractors – Summary (refer to Annex 4 for details):

5 Elements Monitored		
Direction	Implementation	Oversight
1 Element - Conformant	1 Element (7 Inspections Types) - Mostly Conformant	1 Element - Conformant
	1 Element (Training) - Partially Conformant	
	1 Element (Software Updates) - Conformant	

➤ Comments:

1) Direction (conformant):

- 23 procedures for the inspection of CBTC components – provide clear Direction and used for training of employees
- Alstom “Asset Management Plan” App. B2 covers CBTC specifically

RMCO Monitoring Findings for RTM - CBTC Inspections (cont'd)

➤ Comments:

2) Implementation (mostly conformant):

a) Inspections (mostly conformant)

- i. CBTC Rack and Workstation Inspection (1 year): mostly conformant;
- ii. CBTC Rack and Workstation Inspection (6 month): mostly conformant;
- iii. Second Line Maintenance Device (SLMD) Inspection (6 month): mostly conformant;
- iv. KVM Switch Inspections (2 years): conformant
- v. Workstation Defragmentation (1 month): mostly conformant.
- vi. Back-Up Server Inspection (1 week): mostly conformant.
- vii. CBTC Network Inspection (1 day): mostly conformant.

b) Training (partially conformant)

- Records provided show that some “mandatory courses” for technicians are either not delivered or not up to date.

c) Software updates (conformant)

- Documents / records show systematic approach to preparation and implementation of CBTC software updates.

3) Oversight (conformant):

- RTM performing audits where the execution of inspections and training are assessed

Remedial Actions - Update

- OC Transpo requests remedial actions from RTG / RTM for all RMCO Findings:
 - Expectations / timelines for submission and implementation of remedial actions specified in OC Transpo process map
- Resolution of Remedial Actions actively pursued:
 - OC Transpo engaging RTG / RTM and using contractual means for resolution;
 - OC Transpo / RMCO meet RTM quarterly to review status of remedial actions and expedite resolution
- Progress being made (refer to next slide):
 - 9 Findings closed 2024 YTD
 - Since RSA, 48 Findings have been identified by RMCO – 39 are closed
 - Of the 9 remaining (open) Findings:
 - 2 relate to training
 - 3 relate to inspections of track, LRV and catenary
 - 1 relates to Security Management Plan (Fence I.D.S.)
 - 3 relate to CBTC and tunnel inspections (monitored in 2023)
- Good collaboration by RTM, but resolution of some Findings require more time:
 - Inspections require high level of execution and reporting
 - Training conformance requires ongoing effort
 - Findings remain open until objective evidence demonstrates conclusive resolution

Remedial Actions – Update (cont'd)

Summary of RMCO Findings and remedial actions since revenue service inception:

RMCO MONITORING FINDINGS - STATUS OF REMEDIAL ACTIONS - APRIL 2, 2024				
REGULATORY AREA / PROGRAM	PERIOD MONITORED	NUMBER OF FINDINGS	NUMBER OF FINDINGS CLOSED	NUMBER OF FINDINGS OPEN
RULES TRAINING - OPERATING EMPLOYEES	Q4 - 2019	1	1	0
TRACK INSPECTIONS	Q1 / Q2 - 2020	8	8	0
LRV INSPECTIONS	Q3 / Q4 - 2020	5	5	0
CATENARY INSPECTIONS	Q3 / Q4 - 2020	5	5	0
SMS	Q2 / Q3 - 2021	6	6	0
ERP	Q4 - 2021	6	6	0
INSPECTIONS LRV, TRACK, CATENARY	Q2 / Q3 - 2022	4	0	4
SECURITY MANAGEMENT SYSTEM	Q4 - 2022	6	5	1
TUNNEL INSPECTIONS	Q2 / Q3 - 2023	5	3	2
CBTC INSPECTIONS	Q3 / Q4 - 2023	2	0	2
	TOTAL	48	39	9

Summary

- RMCO activities completed in 2023:
 - Monitoring of tunnels and CBTC;
 - Progressing remedial actions to address Findings

- RMCO current / upcoming activities:
 - Following April 11 Transit Commission meeting, Annual Compliance Report scheduled in City Council agenda of April 17, 2024;
 - Regulatory compliance monitoring for 2024 to start Q2 following risk-based selection of areas to monitor;
 - Two risk areas to be monitored in 2024;
 - Ongoing focus on remedial actions with OC Transpo / RTM / RMCO

Annex 1

Tunnel Inspections (Segment 1) – Findings for OC Transpo

Segment 1 Findings – OC Transpo

ITEM	REFERENCE	ELEMENT	OC TRANSP	NOTES
1A	PROGRAM ADOPTION	PROGRAM DEVELOPED / ADOPTED	COMPLIANT	REGULATORY PROGRAM DOCUMENTS ADOPTED ARE IDENTIFIED IN CITY MANAGER DESIGNATION (ie MAINTENANCE AND REHAB PLAN) AND SUPPLEMENTARY DOCUMENTS (e.g. ALSTOM ASSET MANAGEMENT PLAN, WMS PROCEDURES etc.).
2A	PROGRAM IMPLEMENTATION	IMPLEMENTATION	COMPLIANT	<p>1) IMPLEMENTATION OF TUNNEL INSPECTIONS IS PERFORMED MOSTLY BY RTG / RTM AND SUBCONTRACTORS.</p> <p>2) THE CITY CONVEYED REQUIREMENTS THROUGH THE PROJECT AGREEMENT, REGULATORY PROGRAM DOCUMENT (ie MAINTENANCE AND REHAB PLAN) AND ASSOCIATED DOCUMENTS (e.g. ALSTOM ASSET MANAGEMENT PLAN, WMS PROCEDURES etc.).</p> <p>3) OC TRANPO IS MONITORING THE WORK DONE IN THE FIELD THROUGH THEIR OVERSIGHT TEAM AS WELL AS EXPERTS</p>
			COMPLIANT	<p>1) THE PROJECT AGREEMENT REQUIRES THAT OC TRANSPO PERFORM STRUCTURAL INSPECTIONS OF THE ST-LAURENT TUNNEL (SCHED. 15-3 MAINTENANCE RESPONSIBILITY TABLE).</p> <p>2) THE "2 YEAR OSIM STRUCTURAL INSPECTION" FOR THE ST-LAURENT TUNNEL WAS PERFORMED IN 2020, BUT WAS NOT PERFORMED IN 2022; HOWEVER THE OBJECTIVE EVIDENCE PROVIDED INDICATES THAT OC TRANSPO FOLLOWED THE MINISTRY OF TRANSPORTATION OF ONTARIO'S (MTO) GUIDANCE TO DEFER THE INSPECTION (AS PER MOT LETTER DATED 2009 - SEE BELOW);</p> <p>A) THE MTO ISSUED A LETTER WHICH PROVIDES GUIDANCE IN WHICH AN ORGANIZATION'S HEAD OF STRUCTURES CAN MAKE A DECISION TO DEFER A "2 YEAR OSIM STRUCTURAL INSPECTION" WHEN REHABILITATION WORK IS ONGOING IN AN EXISTING STRUCTURE (MTO LETTER DATED JAN 21, 2009 - REFER TO ANNUAL COMPLIANCE REPORT).</p> <p>B) SEVERAL ELEMENTS OF OBJECTIVE EVIDENCE WERE PROVIDED TO CORROBORATE THAT THE CITY FOLLOWED THE MOT PROCESS; THIS INCLUDES: i) A RECORD FROM THE CITY'S "ASSET MANAGEMENT" INFORMATION SYSTEM WHICH INDICATES THAT THE "2 YEAR OSIM STRUCTURAL INSPECTION" FOR THE ST-LAURENT TUNNEL WAS DEFERRED IN 2022; ii) A LETTER FROM THE CITY'S SENIOR ENGINEER OF STRUCTURES STATES THAT HIS OFFICE MADE THE DECISION TO DEFER THE INSPECTION DUE TO THE REHABILITATION WORK IN THE ST-LAURENT TUNNEL.</p>

COMPLIANCE SCALE:	C = COMPLIANT	Compliant means that monitoring activities have identified compliant results in accordance with regulatory requirements and Program documents.
	MC = MOSTLY COMPLIANT	Mostly Compliant means that monitoring activities have identified a limited number of relatively minor non-compliances which can be remedied easily in normal course.
	PC = PARTIALLY COMPLIANT	Partially Compliant means that monitoring activities have identified more regular and/or serious non-compliances that require timely action.
	NC = NOT COMPLIANT	Not Compliant 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.

NOTE: Refer to Annexes 2,3 and 9 for RMC0 Scope and Regulatory / Legal context.

Segment 1 Findings – OC Transpo (cont'd)

3A	PROGRAM DIRECTION	DIRECTION	COMPLIANT	<p>1) DIRECTION RELATIVE TO TUNNEL INSPECTIONS WAS PROVIDED TO CONTRACTORS THROUGH THE PROJECT AGREEMENT;</p> <p>2) P.A. SCHED 15-3, APPDX A, ATTACHMENT 8 IDENTIFIES SPECIFIC REQUIREMENTS FOR TUNNELS</p> <p>3) CITY DESIGNATED PROGRAM DOCUMENTS (MAINTENANCE & REHAB. PLAN RTM-MC-PLN-042) AND SUPPLEMENTARY DOCUMENTS (e.g. ASSET MANAGEMENT PLAN, WMS PROCEDURES) PROVIDE INSPECTION REQUIREMENTS FOR TUNNELS AND ASSOCIATED ELEMENTS (e.g. VENTILATION).</p>
4A	PROGRAM OVERSIGHT	MONITORING PLAN / PROCESS AVAILABLE	COMPLIANT	<p>1) OC TRANSPPO HAS A SUBSTANTIVE OVERSIGHT PLAN ("LINE 1 OVERSIGHT PLAN 2023") WHICH IS UPDATED ANNUALLY. DETAILED TABLES ARE DEVELOPED EACH YEAR TO IDENTIFY MONITORING ACTIVITIES SCHEDULED;</p> <p>2) OC TRANSPPO HAS DEDICATED OVERSIGHT RESOURCES FOCUSED ON MONITORING - THIS INCLUDES THE INSPECTION OF TUNNELS AND THEIR RELEVANT COMPONENTS.</p> <p>3) A REVIEW OF OC TRANSPPO'S OVERSIGHT RECORDS INDICATES THAT FINDINGS ARE BEING IDENTIFIED, ACTIONED WITH CONTRACTOR(S) AND FOLLOWED-UP.</p>
		OVERSIGHT FIELD	COMPLIANT	<p>SPECIFIC OVERSIGHT SCHEDULES ARE PREPARED ANNUALLY. THIS CONTAINS MONITORING OF FIELD ACTIVITIES, REVIEW OF RECORDS ETC.. OVERSIGHT DOCUMENTS PROVIDED BY OC TRANSPPO SHOW SPECIFIC FOCUS IN 10 AREAS WHICH RELATE TO TUNNELS (eg: STRUCTURE, DRAINAGE, LIGHTS etc.).</p>
4B		OVERSIGHT RECORDS	COMPLIANT	<p>OC TRANSPPO OVERSIGHT PLAN / ACTIVITIES ENCOMPASS THE REVIEW OF RECORDS WHICH ARE REQUESTED AS PART OF MONITORING ACTIVITIES.</p>
5A	PROGRAM RECORDS	RECORDS	COMPLIANT	<p>OC TRANSPPO PROVIDED RECORDS RELATIVE TO PROGRAM DOCUMENTS, PROCEDURES AND OVERSIGHT ACTIVITIES.</p>

Annex 2

Tunnel Inspections (Segment 2) - Findings for RTM

Segment 2 Findings – RTM / Subcontractors

ITEM	REFERENCE	ELEMENT	RTM	COMMENTS
1A	DIRECTION	PROCEDURES FOR PERFORMING INSPECTIONS	CONFORMANT	PROCEDURES PROVIDED FOR ALL 8 TUNNEL ELEMENTS MONITORED.

CONFORMANCE SCALE:	
CONFORMANT	Conformant: means that monitoring activities have not identified any non-conformances relative to Program requirements by Contractor.
MOSTLY CONFORMANT	Mostly Conformant: means that monitoring activities have only identified a limited number of relatively minor non-conformances capable of being easily remedied in normal course.
PARTIALLY CONFORMANT	Partially Conformant: means that monitoring activities have identified more regular and/or more serious non-conformances that require timely attention.
NOT CONFORMANT	Not Conformant: 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.	

Segment 2 Findings – RTM / Subcontractors (cont'd)

2A	IMPLEMENTATION	INSPECTION OF TUNNEL STRUCTURES	CONFORMANT	OSIM' STRUCTURAL INSPECTION REPORTS PROVIDED FOR DOWNTOWN TUNNEL AND CONNECTOR TUNNEL APPEAR TO BE CONFORMANT.
2B		INSPECTION OF FDAS	MOSTLY CONFORMANT	1) VIPOND INSPECTIONS / PROCEDURES = CONFORMANT; 2) OTT-TUN-MTN10-WMS-001 = MOSTLY CONFORMANT (1 MONTH INSPECTIONS); 3) WMS-004 = NOT CONFORMANT (3 MONTHS); 4) WMS-007 = CONFORMANT (1 YEAR); 5) WMS-014 = MOSTLY CONFORMANT (2 MONTHS); 6) WMS-015 = PARTIALLY CONFORMANT (6 MONTHS)
2C		INSPECTION OF PUMPS	MOSTLY CONFORMANT	1) OTT-TUN-MTN10-WMS-002 = MOSTLY CONFORMANT (1 MONTH); 2) OTT-TUN-MTN10-WMS-016 = MOSTLY CONFORMANT (6 MONTHS).
2D		INSPECTION OF TUNNEL VENTILATION SYSTEM	MOSTLY CONFORMANT	1) OTT-TUN-MTN10-WMS-003 = MOSTLY CONFORMANT (1 MONTH INSPECTIONS); 2) WMS-006 = MOSTLY CONFORMANT (6 MONTHS); 3) WMS-011 = MOSTLY CONFORMANT (1 YEAR); 4) WMS-018 = CONFORMANT (WINTER MONTHLY); 5) WMS-019 = CONFORMANT (6 MONTHS TCIP); 6) WMS-017 = CONFORMANT (2W SHAFT ROTATION)
2E		INSPECTION OF HEAT TRACE	CONFORMANT	HEAT TRACE INSPECTIONS (WMS-012) CONFORMANT.
2F		INSPECTION OF F-TELS	MOSTLY CONFORMANT	1) F-TEL MONTHLY INSPECTION RECORDS (WMS-008) MOSTLY CONFORMANT. 2) F-TEL ANNUAL INSPECTIONS (WMS-013) CONFORMANT
2G		LIGHTING	MOSTLY CONFORMANT	1) OTT-TUN-MTN10-WMS-005 = MOSTLY CONFORMANT (6 MONTHS); 2) OTT-TUN-MTN10-WMS-009 = MOSTLY CONFORMANT (1 YEAR)
2H		ESCAPE ROUTES	CONFORMANT	WMS-010 INSPECTIONS (6 MONTHS) ARE CONFORMANT (ASSESSMENT INCLUDES ADDITIONAL RECORD PROVIDED SEPT. 8, 2023).
3A	OVERSIGHT	RECORDS	CONFORMANT	1) RTM USING STRUCTURED AUDIT PROCESS (RTM-QMS-FRM-681) 2) 6 QMS AUDIT REPORTS PROVIDED FOR THE PERIOD MONITORED. AUDITS COVER FDAS, STRUCTURES, AND OTHER ELEMENTS SUCH AS PUMPS, VENTILATION, EXTINGUISHERS 3) AUDIT REPORTS CONTAIN SUBSTANTIVE FINDINGS INCLUDING NON-CONFORMANCES AND OPPORTUNITIES FOR IMPROVEMENT. AUDIT SCOPE ENCOMPASSES THE COMPLETENESS OF INSPECTIONS, WMS ALIGNMENT / COMPLETENESS, TRAINING OF EMPLOYEES etc. 4) AUDIT REPORTS IDENTIFY PREVIOUS FINDINGS AND ONGOING DOCUMENTED ACTIONS TO RESOLVE FINDINGS

Annex 3

CBTC Inspections (Segment 3) – Findings for OC Transpo

Segment 3 (OC Transpo) – CBTC Findings

ITEM	REGULATORY REQUIREMENT	REGULATORY REFERENCE	ELEMENT	OC TRANSP0	NOTES
1A	PROGRAM ADOPTION	CITY MANAGER DESIGNATION, APPX B SECTION 1.1 (A)	PROGRAM ADOPTED / DEVELOPED	COMPLIANT	REGULATORY PROGRAM DOCUMENTS ADOPTED / DEVELOPED ARE IDENTIFIED IN CITY MANAGER DESIGNATION (ie MAINTENANCE AND REHAB PLAN) AND SUPPLEMENTARY DOCUMENTS (e.g. ALSTOM ASSET MANAGEMENT PLAN, WMS PROCEDURES etc.).
2A	PROGRAM IMPLEMENTATION	CITY MANAGER DESIGNATION, APPX B SECTION 1.1 (A)	IMPLEMENTATION	NOT APPLICABLE TO OC TRANSP0 (REFER TO CONTRACTOR FINDINGS)	<ol style="list-style-type: none"> 1) IMPLEMENTATION IS NOT ASSESSED FOR OC TRANSP0 BECAUSE CBTC INSPECTIONS / MAINTENANCE ARE PERFORMED BY RTG / RTM AND SUBCONTRACTORS. 2) THE CITY CONVEYED REQUIREMENTS THROUGH THE PROJECT AGREEMENT, REGULATORY PROGRAM DOCUMENT (ie MAINTENANCE AND REHAB PLAN) AND SUPPLEMENTARY DOCUMENTS (e.g. ALSTOM ASSET MANAGEMENT PLAN, WMS PROCEDURES). 3) IMPLEMENTATION IS ASSESSED THROUGH MONITORING OF CONTRACTORS (REFER TO RTG / RTM FINDINGS). 4) OC TRANSP0 IS MONITORING THE WORK DONE BY CONTRACTORS THROUGH IT'S OVERSIGHT PROCESS (REFER TO ITEMS 4A / 4B BELOW)
3A	PROGRAM DIRECTION	CITY MANAGER DESIGNATION, APPX B SECTION 1.1 (B)	DIRECTION	COMPLIANT	<ol style="list-style-type: none"> 1) DIRECTION FOR CBTC INSPECTIONS PROVIDED TO CONTRACTORS THROUGH PROJECT AGREEMENT: <ul style="list-style-type: none"> - OLRT-SCOPE 5 - SCHEDULE 15-2 PART 4, AND - OLRT-SCOPE 5 - SCHEDULE 15-3 MAINT & REHAB PLAN IDENTIFIES SPECIFIC REQUIREMENTS FOR TRAIN CONTROL (ie CBTC). 2) CITY DESIGNATED PROGRAM DOCUMENT (i.e. MAINTENANCE & REHAB. PLAN) AND SUPPLEMENTARY DOCUMENTS (e.g. ASSET MANAGEMENT PLAN, WMS PROCEDURES) PROVIDE INSPECTION / MAINTENANCE REQUIREMENTS FOR CBTC.
4A	PROGRAM OVERSIGHT	CITY MANAGER DESIGNATION, APPX B SECTION 1.1 (B)	OVERSIGHT PLAN / PROCESS	COMPLIANT	<ol style="list-style-type: none"> 1) OC TRANSP0 HAS A SUBSTANTIVE OVERSIGHT PLAN (i.e. 'LINE 1 OVERSIGHT PLAN') WHICH IS UPDATED ANNUALLY AND INCLUDES DETAILED SCHEDULES OF MONITORING ACTIVITIES FOR EACH YEAR. 2) OC TRANSP0 HAS DEDICATED OVERSIGHT RESOURCES FOCUSED ON MONITORING, INCLUDING CBTC SPECIFICALLY.
4B			OVERSIGHT ACTIVITIES	MOSTLY COMPLIANT	<ol style="list-style-type: none"> 1) OC TRANSP0 OVERSIGHT ACTIVITIES ENCOMPASS THE REVIEW OF CBTC INSPECTION / MAINTENANCE RECORDS AND FIELD OBSERVATIONS. 2) A REVIEW OF OC TRANSP0'S OVERSIGHT RECORDS INDICATES THAT FINDINGS ARE BEING IDENTIFIED, ACTIONED WITH CONTRACTOR AND FOLLOWED-UP. 3) OBJECTIVE EVIDENCE INDICATES THAT OC TRANSP0 IS FOLLOWING UP WITH RTG / RTM THROUGH CONTRACTUAL LETTERS REGARDING CBTC INSPECTION / MAINTENANCE RECORDS WHICH ARE NOT BEING PROVIDED IN A TIMELY MANNER. 4) OC TRANSP0 DOES NOT APPEAR TO PERFORM OVERSIGHT ON TRAINING OF EMPLOYEES INVOLVED IN CBTC INSPECTIONS / MAINTENANCE. THIS IS AN AREA WHERE CONFORMANCE GAPS WERE IDENTIFIED WITH THE TRAINING OF INVOLVED TECHNICIANS.
5A	PROGRAM RECORDS	CITY MANAGER DESIGNATION, APPX B SECTION 1.1 (C)	RECORDS	COMPLIANT	<ol style="list-style-type: none"> 1) OC TRANSP0 HAS A SYSTEM TO STORE AND MAINTAIN RECORDS; 2) OC TRANSP0 PROVIDED RECORDS RELATIVE TO PROGRAM DOCUMENTS, PROCEDURES AND OVERSIGHT ACTIVITIES.

Annex 4

CBTC Inspections (Segment 4)- Findings for RTM

Segment 4 (RTM) – CBTC Findings

ITEM	REFERENCE	ELEMENT	RTM	COMMENTS
1A	DIRECTION	PROCEDURES FOR PERFORMING INSPECTIONS	CONFORMANT	<p>1) RTM PROVIDED ALSTOM'S RELEVANT WMS PROCEDURES (23) AND ASSET MANAGEMENT PLAN (REV. G). WMS PROCEDURES ARE SUBSTANTIVE IDENTIFYING WORK PREPARATION, WORK STEPS AND RECORDING PROCESS FOR WORK / FINDINGS;</p> <p>2) WMS-044, 45, 46, 47 WERE PROVIDED BUT NOT REFERENCED IN THE CURRENT ASSET MANAGEMENT PLAN - RTM ADVISED THAT THESE WILL BE ADDED TO REV. H OF THIS PLAN;</p> <p>3) TRAINING MATRIX PROVIDED FOR SIGNAL & COMM. TECHNICIANS SHOWING MANDATORY COURSES REQUIRED (REFER TO PART 2B BELOW)</p> <p>OPPORTUNITY:</p> <ul style="list-style-type: none"> - AT LEAST 3 WMS PROCEDURES (WMS-0003, 13, 20) STATE "ONE OR MORE STEPS IN THIS WMS CAN NOT BE PERFORMED UNTIL THALES PROVIDES DETAILS..." - RTM RESPONDED ON NOV. 17 THAT THEY PLAN TO RESOLVE THIS WITH ALSTOM BY Q2 2024 AND ARE "COMFORTABLE CONSIDERING SYSTEM DESIGN, AUTOMATED MONITORING AND BUILT-IN REDUNDANCY".

Segment 4 (RTM) – CBTC Findings (cont'd)

2A	IMPLEMENTATION	CBTC INSPECTIONS	MOSTLY CONFORMANT	<p>SERVICE ORDERS PROVIDED FOR 7 TYPES OF INSPECTIONS:</p> <p>A) SERVICE ORDERS COVER ALL APPLICABLE WMS PROCEDURES</p> <p>B) CBTC INSPECTIONS / ACTIVITIES INCLUDE FREQUENCIES OF 1 DAY, 1 WEEK, 1 MONTH, 6 MONTHS (2 TYPES), 1 YEAR AND 2 YEARS.</p> <p>C) CONFORMANCE FOR EACH TYPE OF INSPECTIONS SHOWN BELOW:</p> <p>1) "1 YEAR CBTC RACK & WORKSTATION INSPECTION" = MOSTLY CONFORMANT (40 ALSTOM RECORDS PROVIDED) - 6 RECORDS (ABOUT 15%) SPAN MORE THAN 2 MONTHS (WHILE MOST SPAN A FEW DAYS)</p> <p>2) "6 MONTH CBTC RACK & WORKSTATION INSPECTIONS" = MOSTLY CONFORMANT (14 ALSTOM RECORDS PROVIDED) - THERE ARE 3 AREAS WHERE ONE RECORD IS MISSING (ABOUT 20%)</p> <p>3) "6 MONTH SLMD (SECOND LINE MAINT. DEVICE INSPECTION) = MOSTLY CONFORMANT (4 ALSTOM RECORDS PROVIDED) - THERE ARE 2 AREAS WHERE ONE RECORD IS MISSING (ABOUT 30%)</p> <p>4) "2 YEAR KVM SWITCH INSPECTIONS" = CONFORMANT (5 ALSTOM RECORDS)</p> <p>5) "1 MONTH CBTC WORKSTATION DEFRAG" = MOSTLY CONFORMANT (108 ALSTOM RECORDS) - ABOUT 15% OF INSPECTIONS PERFORMED BEYOND TIME TOLERANCE (5 DAYS), AND 1 APPEARS TO BE MISSING</p> <p>6) "1 WEEK BACK UP SERVER" = MOSTLY CONFORMANT (78 ALSTOM RECORDS) - 5 INSTANCES IN 18 MONTHS (ABOUT 7%) WHERE WEEKLY SERVER UPDATES WERE LATE BY MORE THAN 2 DAY TOLERANCE (RANGE OF LATE INSTANCES 10-14 DAYS) - ALSO THERE ARE INSTANCES WHERE SERVICE ORDER SPANS MORE THAN 2 DAY TOLERANCE</p> <p>7) "1 DAY CBTC NETWORK" = MOSTLY CONFORMANT (546 ALSTOM RECORDS) - GENERALLY GOOD EXECUTION OF DAILY INSPECTIONS, BUT RECORDS MISSING FOR SOME DAYS (ABOUT 10%) - A CHRONOLOGICAL REVIEW OF RECORDS SHOWS GENERALLY GOOD EXECUTION OF DAILY INSPECTIONS, WITH 3 MINOR ISSUES: I) RECORDS MISSING FOR SOME DAYS (ABOUT 10%) FOR SAMPLE OF MONTHS REVIEWED; II) SOME DAYS HAVE DUPLICATE RECORDS; III) SOME RECORDS SPAN MORE THAN 1 DAY</p>
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Segment 4 (RTM) – CBTC Findings (cont'd)

2B		TRAINING	PARTIALLY CONFORMANT	<p>TRAINING DELIVERY IS PARTIALLY CONFORMANT:</p> <ul style="list-style-type: none"> - RTM / ALSTOM PROVIDED TRAINING RECORDS FOR 9 TECHNICIANS: THESE APPEAR TO BE MOSTLY CONFORMANT (THEY COMPLETED AND WERE CURRENT IN ABOUT 86% OF THEIR <u>MANDATORY</u> COURSES). - TRAINING RECORDS WERE NOT PROVIDED FOR CERTAIN S&C TECHNICIANS (AT LEAST 2) WHO WORKED DURING Q1 2023 (i.e. IDENTIFIED IN SERVICE RECORDS). <p>OPPORTUNITY:</p> <ul style="list-style-type: none"> - THE THREE COURSES ON WMS PROCEDURES FOR S&C TECHNICIANS (IN ALSTOM TRAINING MATRIX) ARE NOT IDENTIFIED AS MANDATORY, YET THESE CONTAIN STEP-BY-STEP INSPECTION PROCEDURES AS WELL AS IMPORTANT TECHNICAL INFORMATION; - FURTHER 3 OF 9 TECHNICIANS DID NOT TAKE ANY WMS COURSES; - RTM SHOULD CONSIDER MAKING CERTAIN WMS COURSES MANDATORY AS THEY IMPACT CBTC INSPECTIONS.
2C		SOFTWARE UPDATES	CONFORMANT	<p>CONFORMANT.</p> <ul style="list-style-type: none"> - RTM PROVIDED OBJECTIVE EVIDENCE OF ENGAGEMENT WITH OLRTC AND THALES FOR SOFTWARE UPDATES BUILD 8 (COMPLETED) AND 9 (IN PROGRESS)
3A	OVERSIGHT	PROCESS / RECORDS	CONFORMANT	<p>CONFORMANT.</p> <ul style="list-style-type: none"> - RTM PROVIDED AUDIT REPORT PERFORMED IN 2022 ENCOMPASSING CBTC RECORDS AND TRAINING; - AUDIT REPORT PROVIDED IS SUBSTANTIVE WITH FINDINGS AND REFERENCE TO PRIOR AUDIT; - RTM PROVIDED UPDATED OVERSIGHT PLAN (DRAFT); - RTM ADDED TECHNICAL / OVERSIGHT RESOURCE OVER THE PAST YEAR WITH EXPERTISE IN CBTC.