

June 27, 2018

**OCSCC 829 The Mondrian**  
**c/o Capital Integral Property Management**  
324 Laurier Avenue West  
Ottawa, ON K1P 0A4

Attention: **Kayla McKale**  
**Senior Property Manager**

Reference: **Elevator Maintenance Audit**  
**324 Laurier Avenue West, Ottawa ON**  
File 226004 - Letter O107568c.wpd

Dear Kayla,

On June 7, 2018, we conducted a maintenance audit of the elevating device equipment located at the above noted address.

Enclosed is our report detailing our findings. Should you have any questions, please do not hesitate to call.

Yours truly,  
**KJA Consultants Inc.**



Thomas Roth, P. Eng.  
[thomas.roth@kja.com](mailto:thomas.roth@kja.com)

cc. Daniel Hron - KJA  
Troy Pelletier - Regional

attachment

Elevator Maintenance Audit

OCSCC No. 829 - 324 Laurier Avenue West, Ottawa ON

2018-06-07

KJA 226004 -

O107568c.wpd

## **Table of contents**

Summary. ....	1
Equipment Data.....	2
Performance Data. ....	3
Deficiencies. ....	4
Photographs.....	6

## Summary

On June 7 2018, KJA performed a maintenance audit of the elevating device equipment at OCSCC No. 829 - 324 Laurier Avenue West in Ottawa, Ontario. The purpose of the inspection was to evaluate the quality of the operation and maintenance performed, measure the equipment performance, and report on capital expenditures required and/or recommended over the next thirty years. KJA did not inspect or test the safety features of the equipment and did not check the equipment for compliance with requirements of the regulating authorities (TSSA).

The elevator equipment inspected consisted of three gearless traction (MRL) passenger elevators. The equipment was installed by CNIM and manufactured by Global-Tardif circa 2008. The original Leroy-Somer Z4 gearless traction machines were replaced in 2014 by Regional Elevator with Torin TSM-3535-HV machines due to bearing failure. We understand that Regional Elevator is currently maintaining the equipment under the terms of a typical "full-service" contract.

The following table summarizes the quarterly and annual maintenance tasks (as outlined in the B44 Safety Code for Elevators), and oil level monitoring as recorded in the logbooks:

Log Book Records Summary				
Unit	Periodic Tasks	CAT 1 Tests	CAT 5 Tests	FEO
87070	Signed as completed	Overdue since December 2017	Due 2019	Overdue since January 2018
87071	8.6.4.1 (Suspension and Compensating Wire Ropes - rouging, breaks, etc.) Overdue since February 2018	Overdue since December 2017	Due 2019	Overdue since January 2018
87072	Signed as completed	Overdue since December 2017	Due 2019	Overdue since January 2018

The TSSA issued a revision to the Enforcement Procedure Bulletin 218/07 that applies to all elevating devices in Ontario. The revision outlines stricter enforcement methods with regards to the completion of the annual, 2-year or 5-year maintenance tasks. Should the TSSA inspector note overdue tasks they can now take one unit out of service at the site until the required tasks are up to date. All maintenance tasks should be completed at their specified interval and the logs should be signed and dated to verify completion.

We noted maintenance deficiencies during our inspection that require the attention of the contractor. The items in the **Deficiencies** section of this report should be addressed by the contractor with confirmation of completion provided in writing.

## Equipment Data

324 Laurier Avenue West	
number of units	3
designation	1, 2, 3
licence number	87070, 87071, 87072
device type	passenger
year installed	2008
installation code	B44-07
installation contractor	CNIM
maintenance contractor	Regional Elevator
rated speed (m/s, ft/min)	1.75, 350
capacity (kg, lb)	1134, 2500
operation	automatic
number of stops: 1, 2, (3)	22, (25)
front openings	*G, 6-22, PH
rear openings: 1, 2, (3)	P3-P1, GR, (P3-P1, GR, 2-5)
door type	single-speed side-opening
entrance net width (in)	42
entrance net height (in)	84
cab inside depth (in)	53
cab inside width (in)	76
cab inside height (in)	96
machine type	gearless traction (MRL)
device model	Torin TSM-3535-HV
machine location	in hoistway
controller location	in penthouse machine room
motor manufacturer	Torin
motor power (kW)	21.9
controller type	microprocessor
controller model	JRT JVF-4000
drive type	solid-state, VVVF
drive model	Unidrive
emergency brake	dual brake
door operator	GAL MOVFR
door hardware	GAL
car door restrictor	provided
hall door retainers	provided
guiding method	fixed roller-guides
car top railings	provided
machine room equipment guarding	not applicable
door reopening means	infrared multi-beam
communication means	hands-free telephone
security system	security camera
arrival signal	in-car lanterns with dual stroke gongs
firefighters' emergency operation	Phase I (auto) and Phase II
emergency power operation	provided

## Performance Data

Values in bold typeface require corrective actions:

	unit	1	2	3	standard
Operating time up	s	<b>13.9</b>	<b>17.0</b>	<b>15.5</b>	11.5 - 12.5
Operating time down	s	<b>13.5</b>	<b>17.1</b>	<b>15.2</b>	11.5 - 12.5
Door open time (F/R)	s	2.6 / 2.2	2.7 / 2.2	2.5 / 2.5	2.0 - 3.0
Door close time (F/R)	s	4.3 / 4.6	<b>4.9 / 4.0</b>	3.8 / 3.9	3.5 - 4.5
Car call dwell time	s	<b>4.0</b>	<b>3.4</b>	<b>3.5</b>	2.0 - 3.0
Hall call dwell time	s	5.0	5.2	5.3	4.0 - 5.0
Nudging time	s	<b>15</b>	<b>16</b>	20	20
In-car running noise level	dBA	55	55	55	≤ 60
Door noise level	dBA	55	55	55	≤ 60
Levelling accuracy	mm	6	6	6	± 6
Door force (F/R)	lb	<b>35 / 20</b>	<b>32 / 35</b>	21 / 26	≤ 30

- The operating time is the time from the start of door closing until the doors are 800 mm (32") open at the next floor (full open in case of vertical bi-parting doors).
- The door open time is the time between the start of door opening until the doors are fully open.
- The door close time is the time between the start of door closing until the doors are fully closed.
- The car call dwell time is the pause time with the doors open in response to a call registered from within the elevator car.
- The hall call dwell time is the pause time with the doors open in response to a call registered from the lobby.
- The nudging time is the time from obstruction of the door protective device until the warning tone sounds and the doors start to close at reduced speed.

## Deficiencies

We noted maintenance-related deficiencies that require corrective actions:

#	Deficiency	Unit
<b>Safety</b>		
1	Nothing noted.	-
<b>Performance and operation</b>		
2	The performance parameters indicated in bold in the Performance data table requires correction. These parameters should be adjusted to the standard values indicated on the table.	All
3	Diagnose and eliminate cause for multiple variable speed drive faults noted in dispatch controller log.	1, 3
4	Diagnose and eliminate cause for unregistered in car calls to floor PH.	All
5	Diagnose and eliminate cause for creaking present during operation at counterweight.	1
6	Diagnose and eliminate cause for abnormal cyclic noise present during operation at counterweight sheave bearing.	3
7	Diagnose and eliminate cause for abnormal noise present during operation at roller assembly on the underside of the car.	2
8	Tighten the door operator chain assembly (rear).	3
<b>Cab and lobbies</b>		
9	Install TSSA licence plaque, presently stored in controller cabinet.	3
10	Diagnose and eliminate cause for irregular arrival signals (gongs).	3
11	Render in-car passing tone operative.	3
12	Adjust applied COP so that the rear is flush, assembly is presently located outside of the alignment stud exposing wiring.	1
<b>Machine room</b>		
13	Close and secure controller cabinet doors.	All
14	Install spare parts cabinet in the machine room. Do not store spare / old parts (drives) on the machine room floor.	1
15	Tidy wiring inside the dispatch controller.	All (Dispatch)
16	Remove jumper stored in dispatch controller cabinet.	All (Dispatch)
17	Re-install raceway cover in controller.	2
18	Confirm completion of outstanding Firefighters' Emergency Operation Category 1 tests (overdue since January 2018) and update the logbook accordingly.	All
19	Confirm completion of outstanding Standby or Emergency Power or Emergency Lowering Operation Category 1 tests (overdue since December 2017) and update the logbook accordingly.	All
20	Confirm completion of outstanding 8.6.4.1 Suspension and Compensating Wire Ropes - rouging, breaks, etc. annual task (overdue since February 2018) and update the logbook accordingly.	2
<b>Hoistway, pit and car exterior</b>		

#	Deficiency	Unit
21	Monitor and remove corrosion as required currently present on pit steel.	All
22	Adjust roller guide assembly on underside of cab presently producing uneven wear between rollers.	1
23	Provide suitable means for compensating cable stabilization in pit such as nylon roller assembly. Pylon currently used does not sufficiently control movement and is wearing into cable coating.	All
24	Clean door operator.	1, 2
25	Replace worn hall door pickup roller @ floors 8, 9, 11.	1
26	Replace worn hall door pickup roller @ floors 8, 9 (car clipping roller assemblies during operation).	2
27	Replace worn hall door pickup roller @ floors 9, 13, 15, 18, PH.	3
28	Clean the car top, remove rags.	All
29	Eliminate exposed wire currently present at governor, provide conduit as needed.	2

The following deficiencies would normally be the responsibility of the owner:

#	Deficiency
Related work	
1	Mark door to machine room as "Elevator Machine Room".



## Photographs



Photo 1: Machine (#3)

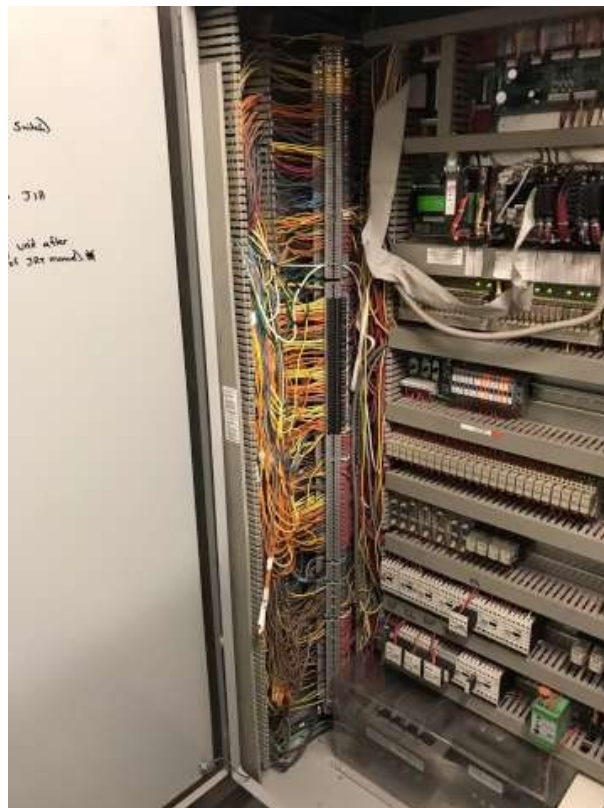


Photo 2: Controller (#2) - install raceway cover



Photo 3: Spare parts in machine room - store properly



Photo 4: Applied car operating panel (#1) - properly align



Photo 5: Compensation cable stabilizer (#1) - provide sufficient means



Photo 6: Counterweight pit steel (#1) - scrape and paint



Photo 7: Hall pickup roller (#1) - replace



Photo 8: Governor (#2) - provide conduit