



Region of Waterloo

## TRANSPORTATION AND ENVIRONMENTAL SERVICES

Rapid Transit

Date: May 24, 2016

# MEMORANDUM

To: Chair Tom Galloway and Planning and Works Committee

From: Thomas Schmidt

Subject: Revised Bombardier Vehicle Delivery Schedule

File No: T16-01(A)

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### Summary

The Region is purchasing fourteen light rail vehicles from Bombardier through an arrangement that “piggyback’s” on a Metrolinx contract for approximately 170 vehicles. The Region entered into an Agreement with Bombardier Transportation Canada Inc. (“Bombardier”) on August 20, 2013 for the purchase of 14 Light Rail Vehicles in connection with the Light Rail Transit Project (the “Agreement”). Under the Agreement, the original Contract Schedule provided that Bombardier would deliver the first vehicle to the Region by no later than August 15, 2016.

As detailed in Report TES-TRS-16-01 dated April 12, 2016, Bombardier subsequently advised that delivery of the first vehicle would be delayed by approximately two months to October 2016.

On May 19, 2016, Regional staff was advised by Bombardier representatives that the Schedule in connection with the timing of delivery of these vehicles has been revised to reflect a delivery date of December 2016 (approximately December 15, 2016) for the first vehicle, with delivery of the subsequent vehicles to follow with the 14<sup>th</sup> and final vehicle being delivered in October, 2017. Bombardier has provided the Region with an initial Light Rail Vehicle Recovery plan which includes details of what is being done to ensure they can meet their new proposed schedule.

The Region is extremely disappointed with Bombardier and their inability to meet their own original and revised schedule and production timelines. We are also extremely frustrated with Bombardier’s failure to earlier implement an effective corrective action plan to address their on-going manufacturing and quality problems.

While Bombardier has provided what appears to be a reasonable plan to deliver the vehicles they will need to demonstrate that they can effectively implement the corrective action plan and deliver quality vehicles according to the revised schedule.

The Region will continue to work with MetroLinx and Bombardier to ensure delivery of quality LRT vehicles for ION. At the same time the Region is demanding better performance from Bombardier.

Based on Bombardier's previous schedule, the Region was planning for the start of ION service in late 2017. The additional delay in the delivery of vehicles will likely result in a delay in the start of ION service until early 2018.

The Region is also reviewing all of its legal options to recover any damages from Bombardier including, but not limited to liquidated damages provided for in the Agreement.

## **Background**

The Region is purchasing fourteen light rail vehicles from Bombardier through an arrangement that "piggyback's" on a Metrolinx contract for approximately 170 vehicles. On June 19, 2012, Regional Council directed staff to negotiate with Metrolinx for a joint and collaborative procurement of 100% low floor LRVs from Bombardier based on a proposed assignment from Metrolinx to the Region of options to purchase LRVs held by Metrolinx (the "Metrolinx LRVs") pursuant to an existing contract between Metrolinx and Bombardier (the "Existing Metrolinx Contract"). This approach to procuring LRVs was supported as the preferred solution for the Region's LRV needs in connection with both Stage 1 and Stage 2 of the Light Rail Project (the "Project").

The benefits of jointly procuring LRVs with Metrolinx under their Existing Contract include:

- A competitive price for the Region's LRT vehicles given the relatively small number of vehicles needed (i.e. piggybacking on the Metrolinx contract provided a much better economies of scale for pricing)
- It met Canadian content requirements
- It maximized competition for the Design Build Finance Operate and Maintain (DBFOM) contract as it eliminated the need for teams to partner with a vehicle supplier
- It provided future cost savings (i.e. using Metrolinx's facilities for heavy maintenance) as well as expertise sharing due to the proximity to Metrolinx's much larger fleet

- It leveraged the work already completed by Metrolinx in developing the LRT vehicles to be low floor, meet local service requirements and operate efficiently in the local climate
- It provided an improvement in the LRT vehicle reliability plan over a much longer period and an opportunity to share parts
- It eliminated additional costs for the Region to run a separate procurement process or add the vehicle procurement to the DBFOM assignment, which was estimated to be at least \$5 million.
  - These costs only include the procurement, engineer and design costs, not the additional costs from the loss of economies of scale or costs associated with the additional risk being transferred to the DBFOM partner

On August 20, 2013 the Region entered into an Agreement with Bombardier Transportation Canada Inc. (“Bombardier”) for the purchase of 14 Light Rail Vehicles in connection with the Light Rail Transit Project (the “Agreement. The Agreement includes delivery of the first light rail vehicle by “no earlier than May 1, 2016 and no later than August 15, 2016” and delivery of the second to fourteenth vehicle by December 10, 2016.

As detailed in Report TES-TRS-16-01 dated April 12, 2016, Bombardier subsequently advised that delivery of the first vehicle would be delayed by approximately two months to October 2016 and the fourteenth vehicle by approximately four months to May 2017 from the original delivery schedule.

Bombardier started production for the Regional fleet in Sahagun, Mexico in late 2015. At that time Bombardier maintained they could ramp up production to a rate required to deliver vehicles to the Region to allow the start of ION service in late 2017.

Light rail vehicle design/production by Bombardier was progressing under careful review by Metrolinx and Regional staff. A number of quality issues related to welding, fit of underframes and overall quality control were causing concerns and delays. Based on the information provided by Bombardier it appeared that the schedule Bombardier was proposing was ambitious but achievable.

### **Recent Events at Bombardier**

On April 7, 2016 Bombardier announced Mr. Benoit Brossoit as new President, Transportation, Americas. The Region’s and MetroLinx’s Light Rail Vehicle procurement is one of the projects under his direction.

On May 16, 2016 a meeting with senior Region, MetroLinx and Bombardier (including Mr. Brossoit) staff was held. At that meeting Bombardier provided information concerning the problems that Bombardier was having in producing and delivering the light rail vehicles, the efforts that Mr. Brossoit was making to identify the issues and Bombardier's commitment to completing and delivering the vehicles.

On May 19, 2016, Bombardier provided a new schedule that had significant delays in vehicle delivery. The new schedule provided for the first vehicle to be delivered in December 2016 (approximately December 15) the next four vehicles to be delivered at a rate of one per month and the remaining vehicles to be delivered at a rate of one every three weeks. The 14<sup>th</sup> vehicle would be delivered in October 2017. Bombardier also committed to providing an action plan to demonstrate how Bombardier was going to ensure the schedule did not slip again and how quality and production issues were going to be addressed.

### **Bombardier's LRV Action Plan**

On May 19<sup>th</sup> Region staff were provided a plan to support the new schedule for the Region's LRVs. The plan focused on 3 main areas:

1. Workmanship and quality
  - a. Welding
  - b. Painting
  - c. Straightening
2. Increasing production capacity
3. Providing better and more transparent information on progress of production

To address workmanship and quality issues at both Sahagun and Thunder Bay Bombardier is:

1. Improving the expertise of workers through training and by hiring and transferring existing Bombardier staff from around the world to the Sahagun facility. This includes experts in welding, painting, tooling and carbodies. Over 30 staff are being added.
2. Taking steps to reduce turnover of staff
3. Improved and simplified welding processes
4. Overall improved process and quality control
5. Additional and better engineering support to address technical issues

To provide additional production capacity Bombardier is transferring the production of some of the Region's vehicles to it's Kingston facility from Thunder Bay.

Bombardier is also proposing a much more comprehensive and joint progress control and monitoring program. This would give the Region much more insight into what progress was being made by Bombardier and demand action if things are falling behind.

Bombardier has also committed to providing the necessary resources to implement the plan and deliver quality LRV vehicles to the Region.

Region staff are still reviewing the proposed plan and will be providing comments to Bombardier prior to it being finalized.

### **Next Steps**

The Region is extremely disappointed with Bombardier and their inability to meet their own original and revised schedule and production timelines. We are also extremely frustrated with Bombardier's failure to earlier implement an effective corrective action plan to address their on-going manufacturing and quality problems.

While Bombardier has provided what appears to be a reasonable plan to deliver the vehicles they will need to demonstrate that they can effectively implement the corrective action plan and deliver quality vehicles according to the revised schedule.

The Region will continue to work with MetroLinx and Bombardier to ensure delivery of quality LRT vehicles for ION. At the same time the Region is demanding better performance from Bombardier.

Based on Bombardier's previous schedule, the Region was planning for the start of ION service in late 2017. The additional delay in the delivery of vehicles will likely result in a delay in the start of ION service until early 2018.

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