

Metro Line LRT Signalling System Audit

Recommendation:

That the August 24, 2015, Office of the City Auditor report CR_2578, be received for information.

Report Summary

This report presents the results of the Metro Line LRT Signalling System Audit.

Previous Council/Committee Action

At the June 9, 2015, Agenda Review Committee meeting, the June 22, 2015, Office of the City Auditor report CR_2578, was postponed to the August 24, 2015, Special Audit Committee meeting.

Report

The Metro Line LRT was originally scheduled to open for full revenue service in April 2014. The plan to start full revenue service was changed to staged implementation due to slippage in the light rail vehicle retrofit schedule. As of the date on the attached report, August 14, 2015, Stage 1 revenue service had not been started.

This audit was originally scoped as a review of the reasons for the delay of the Communication Based Train Control signalling portion of the Metro Line LRT. During the course of our audit, we observed project management inadequacies, so we expanded our scope to include those elements.

The risk that the opening date (April 2014) might not be achieved was identified prior to awarding the Communication Based Train Control contract. In early 2010, Edmonton Transit System identified a requirement for an additional four to six months for planning due to the change to Communication Based Train Control signalling technology. During the procurement process, some potential vendors indicated construction could take more time than available for the April 2014 opening. Effectively, during contract finalization, the Communication Based Train Control construction timeline was shortened by four months rather than extending it.

We noted that the Communication Based Train Control contractor began missing contract deadlines soon after contract award and continued to miss milestone dates throughout the course of the contract. As of August 14, 2015, the software testing processes supporting the issue of the Communication Based Train Control contractor safety certification had not been fully validated. This validation is required to provide the assurance that testing was thorough and complete.

With the expanded scope of the audit we found that major civil construction milestones (e.g. stations) were not completed until the fall of 2014. The commission letter stating

the infrastructure (excluding the Communication Based Train Control signalling system) was ready for revenue service was issued in June 2015.

Some civil construction activity (e.g. tunnel construction) delayed some Communication Based Train Control work (e.g. tunnel cable installation). However, civil construction did not impact the light rail vehicle retrofit, and software design and testing delays that are more significant.

We believe the following five lessons learned need to be incorporated into City processes:

- Project management roles and responsibilities need to be clearly defined and understood.
- Realistic project completion dates need to be established and if necessary revised in a timely manner.
- Senior Management should be provided with formal written status reports that identify major issues.
- Council should be notified on a timely basis of any event or issue that has the potential to generate negative publicity.
- Contract management practices need to be reviewed to ensure the City receives best value.

We made three recommendations to address the issues discussed in the attached report. The recommendations relate to contract management principles, project management improvement and project reporting.

Policy

Bylaw 16097, Audit Committee Bylaw, Section 14(d) states that, "Committee will review all reports from the City Auditor dealing with completed audit projects."

Attachment

1. Metro Line LRT Signalling System Audit Report