

TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: March 26, 2014

SUBJECT: DAVISVILLE YARD – CO-GENERATION

INFORMATION ITEM

RECOMMENDATION

It is recommended that the Board receive this report for information, noting that TTC staff does not consider co-generation at Davisville Yard as a viable option.

FUNDING

This report has no effect on the TTC's operating or capital budget.

BACKGROUND

At its meeting of January 28, 2014, the Board moved that staff forward a report on the opportunity for the TTC to generate additional revenue by leveraging the existing Davisville Yard exhaust stack as part of a cogeneration system serving the heating needs of nearby apartment and office buildings and the electricity needs of the TTC.

DISCUSSION

Davisville Yard is a crucial asset on the Yonge subway line. It is used for storage, maintenance and operation of TTC trains and workcars.

Due to its strategic location, it is anticipated that increased use of the yard will be required in the future. Maximizing the number of trains dispatched from Davisville Yard is beneficial since it significantly decreases the deadhead mileage incurred by having to preload the heavily used Yonge line each morning solely from Wilson Yard. Dispatching more trains from Wilson Yard requires preloading the Yonge line earlier each morning, which negatively impacts the nightly maintenance window.

With ridership increasing, TTC is planning closer headways with more TR trains using ATC technology, which further increases the need to dispatch trains close to the Yonge line. Unfortunately, the change to the 6-car TR trains diminishes the capacity of Davisville Yard slightly. Realignment of the Davisville Yard tracks may be required in the future to optimize the yard for TR train storage.

For workcars, Davisville Yard is a strategic location for many work groups that need to stage their work as close as possible to their base of operations. Workcars are dispatched nightly from Davisville Yard to decrease travel time to and from work sites, thereby maximizing work time during the brief nightly maintenance window. The TTC's infrastructure is aging and rehabilitation projects are increasing in scope and will likely continue indefinitely. Increased use of Davisville Yard is required and the TTC cannot afford to lose valuable space for non-transit purposes.

An abandoned heating boiler building exists at Davisville Yard. The building still contains the boiler equipment, but is contaminated with an extensive amount of asbestos insulation. This equipment has not been removed due to the high cost. The building itself has some structural issues related to foundation settlement and is inspected on a regular basis to ensure the facility continues to remain in a safe condition. The masonry smoke stake has not been in operation for many years and would likely require extensive work to upgrade to meet present code requirements.

The existing Davisville Yard buildings have relatively new efficient gas fired heating systems. Based on economy of scale, cost savings to the TTC from the co-generation process would not be significant. In general, the electricity generated via such a plant is not as reliable as the regular hydro supply. In addition, hydro incoming supply must still be available and the TTC would still be charged with the associated standby charges. A needs analysis is underway for the 2015 budget submission to demolish the boiler building for yard modifications to meet future vehicle storage and maintenance needs at Davisville Yard.

Co-generation also exposes the TTC to liability related to the power generation supply and associated services affecting the network.

For the reasons noted above, co-generation at Davisville Yard is not recommended.
