



## STAFF REPORT ACTION REQUIRED

### Update on Metrolinx Proposed 18MW Gas Power Plant in Mount Dennis for Eglinton Crosstown LRT

<b>Date:</b>	May 5, 2016
<b>To:</b>	Executive Committee
<b>From:</b>	Chief Corporate Officer
<b>Wards:</b>	Wards 11 & 12 - York South-Weston
<b>Reference Number:</b>	P:\2016\Internal Services\E&E\Ec16005e&e (AFS #22888)

#### SUMMARY

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Community groups in the Weston and Mount Dennis have voiced concerns over the Metrolinx/Crosslinx Transit Solutions proposed construction of an 18 megawatt (MW) natural gas power plant in their community which will provide backup power for the Eglinton LRT. See Attachment 1 for correspondence from the community groups Mount Dennis Community Association. The 12, and Blue Green Canada with Laura Albanese, MPP (York South-Weston).

City Council requested that staff from the Environment and Energy Division meet with Metrolinx, Crosslinx Transit Solutions and Toronto Hydro to discuss the Crosslinx plan for the power plant facility. This report outlines the results of these meetings.

#### RECOMMENDATION

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**The Chief Corporate Officer recommends that:**

1. The Executive Committee receive this report for information.

#### Financial Impact

There is no financial impact resulting from the approval of this report.

The Deputy City Manager & Chief Financial Officer has reviewed this report and agrees with the financial impact information

## **DECISION HISTORY**

City Council on December 9 and 10, 2015, adopted the following:

1. City Council request Metrolinx, Crosslinx Transit Solutions and Toronto Hydro to meet with staff from Environment and Energy to discuss the Crosslinx plan for a back-up power facility for the Eglinton Crosstown LRT near the proposed Mount Dennis station and the former Kodak Lands site.
2. City Council request the Director, Environment and Energy, to report back to Executive Committee on the results of the meeting(s).
3. City Council request the Director, Environment and Energy, to develop a Community Energy Plan for the Mount Dennis Area and to report back to the Parks and Environment Committee in the first quarter of 2016.

Member Motion MM11.19 *"Feasibility of Integrating Alternative Energy Components in the Back-up Power Facility at Mount Dennis Station on the Eglinton Crosstown LRT Line"* - by Councillor Frank Di Giorgio, seconded by Councillor Frances Nunziata  
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.MM11.19>

## **ISSUE BACKGROUND**

Crosslinx Transit Solutions has been awarded the contract by Metrolinx to design, build, finance and maintain the Eglinton Crosstown LRT. In the tender document, Metrolinx requested proponents to aim for lowest 30-year life-cycle electricity costs for the LRT, for which Crosslinx Transit Solutions proposes to construct an 18MW natural gas fired power plant at the western terminus of the transit line, near the proposed Mount Dennis station and the former Kodak Lands site. See Attachment 2 for Metrolinx Transit Hub study with plans and a map of the Kodak Lands.

Community groups in the Mount Dennis area have voiced concerns regarding the Crosslinx Transit Solutions power plant, which is intended to also provide backup power for the Eglinton LRT in the case of a bulk power disruption (i.e. Hydro-One system failure). For details see the attached correspondence from the community groups Mount Dennis Community Association, The 12, and Blue Green Canada with Laura Albanese, MPP (York South-Weston).

In the last 13 years, there were three bulk power disruptions in Toronto: the August 2003 eastern blackout, the July 2009 Richview transformer fire, and the 2013 June flood of Manby station.

## COMMENTS

Key points from Environment & Energy Division staff meetings with Metrolinx and Toronto Hydro:

### 1) **Metrolinx/Crosslinx 18MW gas plant**

- Metrolinx issued an RFP, which asked for lowest overall life cycle electricity costs for the Eglinton LRT
- Crosslinx Transit Solutions (Crosslinks), the winning proponent, proposed an 18MW (six 3 MW engines) natural gas fired power plant to achieve 40% reduction in life-cycle electricity costs, as well as, provide backup power to protect against Hydro One electricity transmission failure (e.g. June 2013 flood at Hydro One Manby Station left 300,000 people without power for days in west Toronto and east Mississauga). Back-up power is required to ensure that LRT trains can be removed from tunnels, and provide emergency ventilation in the event of a power failure (see Metrolinx back-up power presentation in Attachment 3 for details).

### 2) **Toronto Hydro is working on the electricity supply for Eglinton LRT with Metrolinx**

- Two supply points from different Toronto Hydro stations will provide redundancy in the event of Toronto Hydro system issues (e.g. March 2016 transformer fire on Richmond St, which left subways and streetcars without power during the morning commute).
- This is to mitigate the risks associated with failures of the distribution system. The Eglinton LRT system will remain at risk for failure of bulk electricity systems (Hydro-One).
- Toronto Hydro is expanding their local transformer station (Rynnymede TS) to accommodate new community growth and the new Eglinton LRT. See Attachment 4 for a list of near term terms projects being implemented by Toronto Hydro as part of the Central Toronto Regional Energy Plan)

### 3) **Alternative energy solutions**

- At this time, based on meetings with Metrolinx and Toronto Hydro, alternative energy sources that could be considered include:
  - Solar PV roof-mounted systems on the Eglinton LRT storage facility building, which will also host a green roof, to be built by Crosslink Transit Solutions at the former Kodak Lands site. Roof-top mounted 0.5MW solar PV systems could be enrolled in Ontario's Feed-in-Tariff program for a positive return on investment.

- Roof space at the proposed facility could support one or two 0.5MW PV system, depending on the proposed green roof layout and size, a capacity far below the back-up power capacity required by Metrolinx.
- Storage systems of this magnitude required by Metrolinx (18MW) are currently prohibitively expensive.
- Heat recovery from the gas plant for new development on-site and adjacent property is an option that Metrolinx seems open to at this time, which will be explored as part of the Community Energy Plan to be prepared by the Environment and Energy Division as directed by council. However, the thermal load of the facility can support no more than one of the 6 engines.

**City's authority with respect to the proposed gas plant:**

- The City approves development application site plans and zoning, but not electricity plants technology.
- The proposed 18MW gas plant as configured to be grid connected requires a number of permissions from the province and provincial agencies, including:
  - Noise and Air Emissions (Ministry of Environment)
  - Grid connection and dispatch protocol (Independent Electricity System Operator, Toronto Hydro)
  - Electricity Generator license (Ontario Energy Board)

**Community Energy Plan under development**

The Environment and Energy Division as directed by Council is developing a Community Energy Plan (CEP) for Mount Dennis.

Community Energy Planning (CEP) is an area-based approach to energy planning that models energy needs for existing and future development. The objective of CEP is to integrate energy considerations, including the energy components in water, solid waste and transportation choices, early into the land use planning process and seize opportunities for the following embedded energy solutions.

The community engagement portion of the CEP is led by the two local councillor's offices (Councillors Nunziata and DiGiorgio).

## **CONTACT**

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## **SIGNATURE**

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Josie Scioli, Chief Corporate Officer

## **ATTACHMENTS**

- Attachment 1 - Community groups correspondence with Laura Albanese, MPP (York South-Weston)
- Attachment 2 - Metrolinx Mobility Hub document with map of Kodak Lands
- Attachment 3 - Metrolinx Back-up power presentation slide deck, and meeting notes
- Attachment 4 - Toronto Hydro near-term projects being implemented. Excerpt from IESO/Toronto Hydro presentation of the Central Toronto Regional Energy Plan published April 2015