

### **Preparing for Climate Change**



**James Kennedy**Chief Executive Officer
Magnolia Generation

# How The Grange became the First Condominium to Meet City of Toronto's **Sustained Occupancy Guideline**

Most residents of the City of Toronto will remember the damage caused by the 2013 flood and ice storm. Trees and branches were felled from the buildup of ice, power outages resulted from downed wires, many residents suffered without power for days and in some cases weeks. Lessons were learned the hard way, but fortunately strategies were implemented to prevent many of these situations from reoccurring.

The Grange, a Crossbridge (formerly Brookfield) Condominium Services-managed condominium recently became the first GTA multiunit residential building to be recognized by the City of Toronto for meeting tougher emergency and backup power recommendations set out in the City's new voluntary guideline for sustained occupancy.

"With more and more Torontonians living in tall buildings, and more frequent

and severe climate events expected, improving backup power in multiunit residential buildings serves to strengthen the city's overall resilience by allowing people to remain in their buildings during prolonged power outages," said Fernando Carou, senior engineer for the City's Community Energy Planning. Carou officially recognized The Grange's resiliency leadership at a Doors Open: Resilient Buildings with Clean Energy event. "This provides safety and comfort, especially to vulnerable populations, and may potentially reduce added demand on public services, infrastructure and facilities during non-emergency situations."

#### **A Greener Electricity Solution**

After the 2013 ice storm The Grange, like many multiunit residential buildings, lost power for an extended period of time, which included the use of

elevators. Following this, The Grange's property manager and Crossbridge's IESO embedded energy manager identified the building as an ideal candidate for a Combined Heat and emergency Power (CHeP) system to replace its failing backup generator. In addition to being a win for residents of The Grange, the condo spent zero upfront capital for what is, essentially, its own mini power plant that produces greener electricity.

Instead of a diesel unit – which typically provides very limited, emergency power only – The Grange chose an innovative and affordable CHeP system. The system runs continuously, supplies 80 per cent of the building's everyday energy needs and reduces GHGs by 4 tonnes annually. Magnolia Generation designed, built, owns, operates and maintains the system for The Grange in exchange for a 20-year energy supply



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From left, Murray Johnson, RCM Vice President Client Service Development, Crossbridge Condominium Services, receives a letter from Deputy Mayor Doug Holyday and Fernando Carou, Senior Engineer, City of Toronto, recognizing The Grange as the first GTA condominium to meet tough new emergency and backup power recommendations set out in the City's guideline for sustained occupancy. Photo supplied.

#### **What CHeP Powers**

#### This

#### **Emergency/Life Safety Power**

This is the bare minimum currently mandated by the Ontario Building Code, based on CSA-C282:

- Two elevators (power to all four elevators, but only two at a time)
- Stairway lights and hallway lights and outlets
- Basement hallway and garage lighting
- Fire pumps and compressors
- Key infrastructure lighting, boiler room, elevator room and more

#### + This

#### **Sustained Occupancy Power**

CHeP powers much more, providing these additional elements recommended in the City of Toronto's new Multi-Residential Guidelines:

- 1. Domestic hot water and space heating system and pumps
- 2. Hot and cold water pumps
- 3. Sump pumps and heat pump and glycol to garage ramps and garage doors
- 4. Full power to management office
- 5. Full power to security systems and office
- Full power to common elements (party room, lounge, day care and boardroom)

agreement at prevailing market rates for gas and electricity.

The corporation pays no more for electricity than it would have previously, but gets the assurance of unlimited backup power, reduces its carbon footprint and isn't burdened with ownership or maintenance. An incentive under the Ontario Long Term Energy Plan designed to encourage uptake of CHeP is set to expire on July 1, 2018. Interested parties may contact the author for more information about taking advantage of the incentive.

The CHeP solution uses cleaner, more reliable natural gas-powered microturbines. It also addresses a conservation mandate of the Ontario Government (through the IESO and Toronto Hydro) to ease demand on the electrical grid.

#### Setting a New Standard for Sustainability

Crossbridge Condominium Services collaborated closely on the affordable solution, which addresses the needs of condominiums, boards and residents. "Co-generation is an excellent fit for condominiums," said Rob Detta Colli, Manager of Energy and Sustainability for Crossbridge Condominium Services. "We now have a solution that is setting a new standard for the multiunit residential segment in Ontario."

Added Murray Johnson, Crossbridge Condominium Services' Vice President of Client Service Development, "We continually evaluate new technologies to improve safety and security for our clients. The CHeP solution checks all the boxes: it provides a more reliable source of back-up power for no upfront costs and, most importantly, no operational risk."

The Grange condominium has become a showcase for more resilient back-up and emergency power standards recommended after the 2013 flood and ice storm. A similar system for a Toronto Community Housing building is currently in the works, which will provide the same set of benefits.

James Kennedy is CEO of Magnolia Generation, specialists in building and operating CHeP systems for multiunit residential buildings, including condominiums and subsidized housing. You can reach James at jkennedy@magnoliaenergy.camagnoliagenerationinc.ca