

APPENDIX "B"

Conservation and Demand Management Plan

Regulation

Ontario Regulation 397/11 was created under the Green Energy Act, 2009 and is being phased in over a number of years. The first phase required that Ontario public sector organizations complete a summary template that details the energy consumption, size, age and usage plans of each building they own. The City of Greater Sudbury submitted the first report in July 2013, as required. The report must be updated yearly thereafter.

The second phase of the regulation is as described below;

"A public agency shall prepare, publish, make available to the public and implement energy conservation and demand plans or joint plans in accordance with sections 6 and 7 of the Act and with this Regulation.

An energy conservation and demand management plan is composed of two parts as follows:

A summary of the public agency's annual energy consumption and greenhouse gas emissions for its operations.

A description of previous, current and proposed measures for conserving and otherwise reducing the amount of energy consumed by the public agency's operations and for managing the public agency's demand for energy, including a forecast of the expected results of current and proposed measures."

Ontario Regulation 397/11 also requires "confirmation that the energy conservation and demand management plan has been approved by the public agency's senior management."

The plan provides a framework to incorporate various initiatives identified in the plan in future operating and capital budgets.

2011 Baseline

The City of Greater Sudbury owns and operates more than 600 buildings. Under the provisions of Regulation 397/11, 422 of these require energy and emission monitoring and reporting. In 2011, these facilities consumed approximately 120eGWh of total energy and produced around 17,000 tonnes of greenhouse gas emissions. The associated total energy cost was approximately \$9.6million (77% for electricity and 23% for natural gas).

Energy Conservation Projects

Throughout 2012 and 2013, the City implemented various energy conservation projects that realized energy savings of approximately 4,018,842 kWh or perpetual cost avoidance of \$297,386 per annum.

Opportunities for Energy Reduction

To identify other opportunities for energy reduction, the City commissioned 20 facility audits, including Pioneer Manor Long Term Care Facility, Tom Davies Square and various Fire and EMS stations. These

audits identified energy conservation measures, as well as solar and street lighting retrofit projects and improvements to waste water treatment plants.

Energy Use Patterns

Of the 600 city-owned facilities, 422 buildings require energy and emission monitoring and reporting in accordance with Ministry of Energy guidelines. These energy use patterns include utility costs, energy distribution, greenhouse gas emissions, and energy use intensities. The buildings are categorized into the following six groups:

1. Administrative Buildings
2. Emergency & Essential Services
3. Fleet Services
4. Leisure Centres
5. Public Libraries
6. Water & Wastewater Plants

Moving Forward

Buildings in the CGS' Leisure Centres category have the greatest potential for energy reductions. Together, Leisure Centres and Water & Wastewater Plants accounted for 75% of the City's total electricity consumption. Buildings in the Leisure Centres group also accounted for 59% natural gas consumption and 49% of total annual green house gas emissions.

As part of its ongoing efforts to reduce energy consumption, the City intends to commission energy audits of the facilities within the Leisure Centres category. These audits would identify energy conservation measures that could contribute to the City's energy savings.

Energy Team

The City of Greater Sudbury will establish an Energy Team to initiate discussions on how to improve energy efficiencies by identifying opportunities in the following areas:

- New building construction
- Technical standards
- Aging equipment replacement
- Operating strategies improvement
- Alternative energy technologies
- Energy awareness

The Energy Team will meet regularly with the following objectives:

- Develop strategies to reduce energy consumption

- Integrate best practices into daily operations
- Raise awareness of the consumption of energy within each department
- Track energy reduction

Monitoring and Verification

Monitoring and tracking energy data is a key element of energy management. The City uses software developed by York Region to measure energy consumption, energy costs and greenhouse gas emissions for municipal buildings and facilities. The system can also report on variances from specific targets, calculate energy use indices and relate energy consumption to building systems.