



April 7, 2020

To: Mayor and City Council of Melfort,

Re: Melfort's Northern Lights Palace – Energy Conservation during COVID-19

I wanted to provide an update on the City of Melfort's efforts to reduce operational costs as we put our vacant buildings into "COVID-Mode" during these difficult times.

In December 2019, we started a data acquisition and energy conservation initiative with Regina-based, Greenwave Innovations. Greenwave installed an electrical sub-monitoring system throughout our community recreation complex, the Northern Lights Palace.

Beginning on March 15th, we started to transition the facility into basic, non-occupied mode. As can be seen below, our electricity usage leveled off at ~ 50% of "normal" requirements reducing utility costs from ~ \$700 to \$350 /day. From Greenwave's analysis of our data, these utility reductions were attributed to the shut-down of our ice plant, reduced mechanical waterpark usage, reduced lighting loads and reduced plug loads.

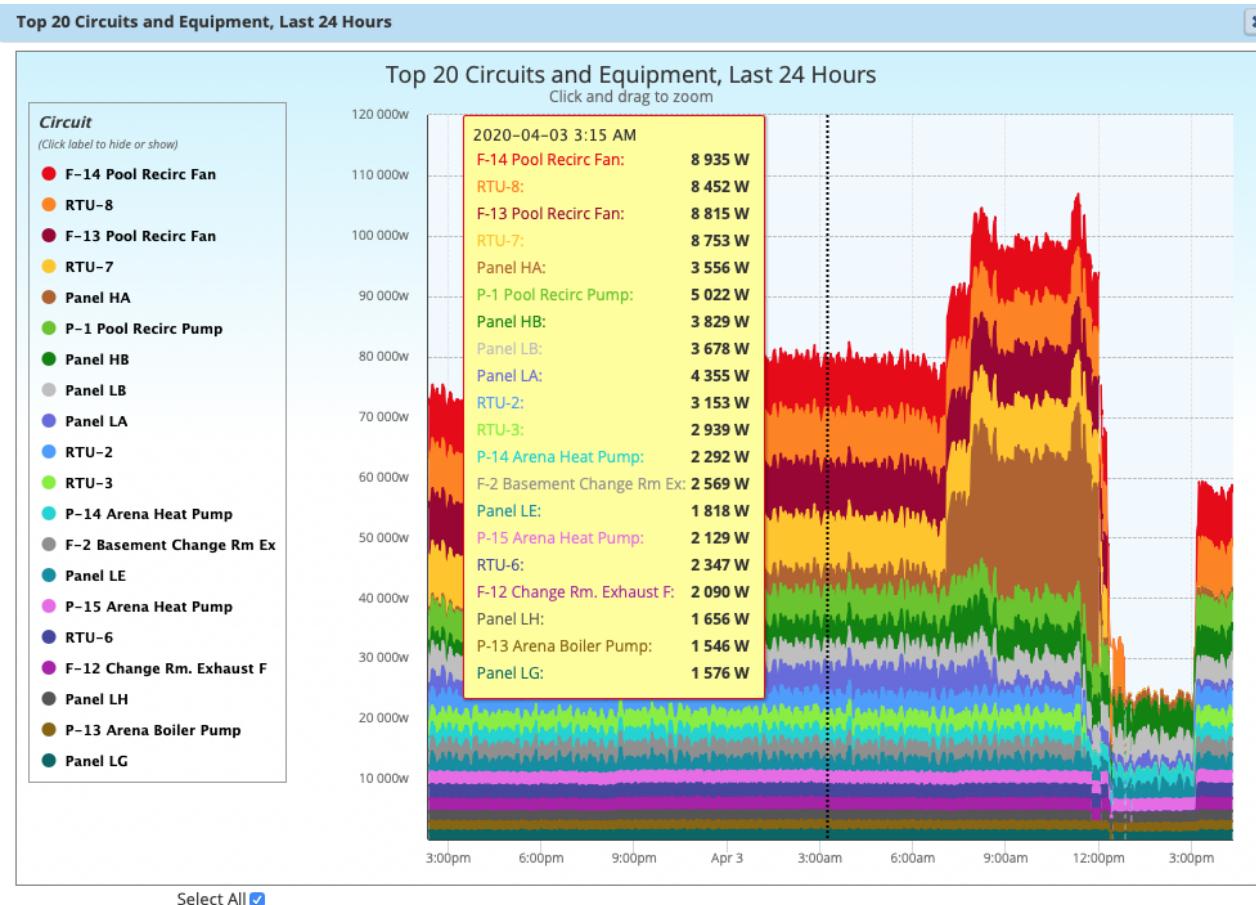


Greenwave contacted us this past Friday, Apr 3rd and offered to walk our building operators through the consumption data. We reviewed the results of our previous "dial back" efforts and analyzed the data to un-cover any additional cost savings opportunities.

I'm pleased to report that **electricity use is down ~ 30% from where we started the day.**

This will equate to the following: **Saving \$2,500 / Mo** on our next SaskPower bill
Reducing 12 tonnes³ of CO₂e / Mo of GHG emissions

The graphic below shows Friday's electrical usage where the 12 - 3pm investigative period can be seen. By ~3pm, we used the consumption data and our building operator's recommendations, to turn back on all essential systems which are now being maintained.



The following activities were undertaken to reach the **additional 30% savings**:

- Turned off redundant RTU-7 heating unit: ~ **11% reduction**
- Turned off F-13 Pool Recirc Fan: ~ **10.5% reduction**
- Turned off F-15 Concession Exhaust Fan: ~ **2% reduction**
- Turned off Wave Generator Compressor: ~ **1.5% reduction**
- Turned off Concert Transformers: ~ **1.5% reduction**
- Turned off F-16 Pool Fan: ~ **1% reduction**
- Turned off P-2 Pool Recirc Pump: ~ **0.5% reduction**
- Turned off Air Compressor: ~ **0.5% reduction**
- Turned off Wave Generator Ex-Fan: ~ **0.5% reduction**
- Miscellaneous other items: ~ **1% reduction**

We have also successfully integrated our real-time water usage into Greenwave's platform and are leveraging their relationship with SaskEnergy to do the same with Natural Gas.

We intend to use this down-time to minimize our utility usage and ensure we have proactive energy management strategies in place for when we return operations to normal. This partnership will continue to develop with Greenwave and I plan to keep you up to date with our progress moving forward.

Regards,



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