

profiles

POWER SMART
FOR BUSINESS

Seven Oaks General Hospital focuses on energy efficiency

Seven Oaks General Hospital is a community hospital for the northwest corner of Winnipeg, areas of the south Interlake, and a key provider of some surgical and other acute services for the Winnipeg Health Region. Seven Oaks is considered to be Canada's first Health Promoting Hospital because of its commitment to innovation and the integration of illness prevention and health promotion with acute care. The 2300 McPhillips Street facility has 293 beds and employs over 1,500 staff.

The hospital underwent **retrocommissioning (RCx)** investigative studies that were funded by Manitoba Hydro's Commercial Building Optimization Program (CBOP). The investigation process focuses on documentation and training to help improve the energy efficiency of commercial buildings and identify energy saving opportunities.

To perform the investigation, the facility's equipment and operations are assessed through functional testing, analysis of the energy management system data, and observation of the daily operations. Team meetings are held with the customer, consulting engineer, and Manitoba Hydro to decide which measures the customer should implement.

Retrocommissioning a health care facility is a complex process, because it is operational 24 hours a day, seven days a week and the environment is constantly changing. Manitoba Hydro's CBOP team had to identify the hospital's current facility requirements, all untouchable areas of the hospital, and other key factors such as minimum temperatures.

The program helped the hospital find energy saving opportunities that were not easily identifiable, extend the life of their equipment, and reduce energy costs.

"We're trying to promote ourselves as a green facility and the program has helped us reduce our energy consumption, save money, and increase the comfort level at the hospital. The CBOP team was especially helpful in determining measures that met the hospital's specific needs and requirements."

– Larry Carefoot, Assistant Director, Facility Services



Results

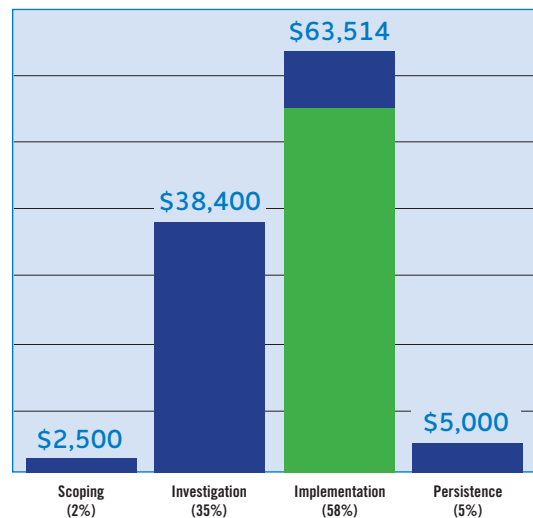
Energy savings: Electricity 79,484 kW.h/yr
Natural gas 41,084 m³/yr

Annual savings: \$15,833/yr

Payback period (including incentive): 2.07 years

Power Smart incentive: \$55,900

Cost breakdown



Total project cost: \$109,414

■ Manitoba Hydro (51%) ■ Seven Oaks General Hospital (49%)



*Manitoba Hydro is a licensee of the Trademark and Official Mark.



RCx winning measures

Creation of occupancy schedules

During the Scoping Study, it was observed that the Daycare, Geriatrics, and SkyView Terrace did not have an occupancy schedule and were operational day and night, seven days a week. The commissioning provider helped to program a schedule into the system to reflect low/no occupancy during the night and on weekends.

Annual savings \$1,995 Payback: immediate

Optimization of ventilation systems

The kitchen and dining room fans were interlocked. The fresh air volume in the dining room was designed to accommodate indoor cigarette smoking and was subsequently over-ventilating the area (based on current occupancy and use). Due to the interlocks, the fan system could not be scheduled differently from the kitchen. These areas especially needed to be retrocommissioned because of the change in regulation. The Building Automation System was adjusted by a controls contractor that enabled the system to monitor occupancy to reflect appropriate fresh air volumes and to operate independently.

Annual savings \$3,900 Payback: 3.9 years

New features for operating rooms

New controls features were implemented to include fresh air controls, new sequence of operation, damper adjustments, and equipment retrocommissioning. SOGH staff will implement new schedules based on occupancy.

Annual savings \$ 8,200 Payback: 2.0 years

Installation of timers

Timers can be used to shut down equipment after a set period of time. The operating hours of the exhaust fans, in the shop area of the hospital, needed to be reduced to hours of actual use and occupancy. A timer was installed to help curb the overuse of these fans, resulting in a reduction of electricity and natural gas consumption.

Annual savings \$900 Payback: 3.7 years

Installation of zone dampers

Zone dampers reduce airflow during the night, when not all the equipment is running and when certain areas of the hospital are occupied.

Other RCx measures

Annual savings \$1,000 Payback: (including incentive) less than two years

“Health care facilities are prime candidates for commercial building optimization efforts. In addition to comfort requirements, control systems in health care facilities must respond to the needs of highly specialized areas. These high-demand functions offer a unique opportunity for retrocommissioning heating, ventilating, and air conditioning (HVAC) systems. The resulting energy efficiency is an excellent opportunity to change wasted utility dollars into health care dollars.”

Alex Fleming, P.Eng., CMVP
President – Demand Side Energy Consultants Inc.

Visit our website for tools and guidelines about retrocommissioning

- What is retrocommissioning;
- Glossary of terms;
- Common opportunities identified;
- View more case studies;
- How to take part in the program.

CBOP Team

Customer: Seven Oaks General Hospital

RCx Consultant: Demand Side Energy

Power Smart Incentive Program:
 Commercial Building Optimization (CBOP)

For more information on Power Smart for Business, contact:

Phone: 360-3676 in Winnipeg or
 1 888 MBHYDRO (1-888-624-9376)
www.hydro.mb.ca/psfb

Power Smart for Business guidelines and incentive levels are subject to change without notice. October 2010.

