

In 2008, the National Research Council - Institute for Chemical Process and Environmental Technology completed an Energy Savings Program to help significantly save energy and provide significant system renewal.



National Research Council



In addition, one of the main building exhaust plenums supporting the lab space was rebuilt and expanded, eliminating a number of smaller exhaust fans.

As part of the program there were many other items addressed with system re-commissioning and renewal of existing components.

The NRC and ICPET will benefit from the project with an energy savings of over \$352,000 per year which is a 43% improvement in the utility cost for the Institute.

Project implementation began in 2007 and will be completed in December 2008.

Energy Savings Program

The National Research Council (NRC) is Canada's leading science and technology research organization with 20 sites across Canada. The main campus is located in Ottawa and is home to the Institute for Chemical Process and Environmental Technology (ICPET), which houses laboratories and the associated offices, storage and support space for the Institute. The program developed with NRC includes measures for the Institute that will save energy and provide significant system renewal.

The project addressed 92 ICPET facility fume hoods with replacements or upgrades as warranted in each situation. By improving the fume hoods and integrating these changes into the design of the supporting mechanical systems, the indoor environmental conditions throughout the facility have been improved significantly while saving energy costs.

To further optimize energy performance in the research spaces, motion sensors were added to lab rooms to ensure lights turn off when the room is not in use. The sensors are interfaced to the automation system for system setback and with the fume hood controllers to adjust the fume hood airflow during unoccupied times.

Building Measures

- Fume hood system renewal
- BAS expansion and integration
- New building exhaust system
- Heat recovery and cooling system upgrades
- Installation of integrated lighting controls
- Building ventilation system modifications
- Variable speed pumping
- System re-commissioning
- Training

Project Highlights

- Project Value: \$3.65 million
- Total Square Metres: 11,610
- Project Payback: 7 years
- \$352,000 savings annually
- 1,457 tonnes of greenhouse gas emissions avoided annually

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