HPNC

HIGH PERFORMANCE
NEW CONSTRUCTION

Outdoor Sportswear Company Helps Environment and Saves Energy Costs in New Building

As a leading supplier of outdoor apparel, footwear and equipment, Columbia Sportswear strives for performance in its business. The construction of a new facility in Strathroy, Ontario provided the perfect opportunity to "build in" energy conservation and environmental savings at a lower cost. The beyond-Code lamping and air conditioning choices qualified Columbia for the first prescriptive stream incentive from the Ontario Power Authority's High Performance New Construction (HPNC) Program.

Strathroy, Ontario

Background

Columbia Sportswear is a global leader in design, sourcing, marketing and distribution of active outdoor apparel, footwear, and equipment. With its portfolio of outdoor brands including Mountain Hardwear, Sorel and Montrail, the Company has developed an international reputation for quality, performance, functionality and value. Strathroy, Ontario is the site for the distribution of these brands to all of Canada. When operations outgrew the original facility, Columbia opted to invest in a brand new building to house both a distribution centre and offices.

Challenge

With energy costs rising, Columbia wanted to incorporate efficiency features that would reduce operating costs. And, as Operations Manager, Pat Pennell puts it,

"As a company supplying avid outdoor lovers, we want to do as much as we can to protect the environment."

Columbia brought in McKay-Cocker, an award winning Design-Build contractor with recognized expertise in green building. The challenge was to find efficiencies for 100,000 square feet of space. The 30' high ceilings required by warehouse operations would make bright lighting a must. Adjacent office facilities would require air conditioning in summer.

Solution

Columbia's new warehouse and office facility incorporates energy-efficient technologies that go beyond Ontario Building Code standards to provide both energy savings and environmental benefits.

In the warehouse…

T-5 Fixtures for High Bay Applications

Each new High Bay lamp fixture features two T-5 fluorescent bulbs (typically 224 W) mounted with a reflective backing. Columbia's Distribution Manager Paul Allen says the design is ideal for the warehouse area: "Obviously if you're going to put lighting in a 30 foot ceiling you want it to come down to fill the whole space. The T-5 fixtures spread the light optimally while using less electricity."

Total electricity savings from the high efficiency lamps will be around 59.7 kW.

Motion sensors

Switch plate mounted occupancy sensors add to the efficiency of the lighting system. They ensure that lights come on when aisles are active and are turned off when aisles are inactive. The addition of this feature saves a further 3.16 kW.

In the offices …

ENERGY STAR®
Air Conditioning

Two unitary air conditioners (4 tons and 3 tons) qualify as high-efficiency units with an Energy Efficiency Ratio of 13 for the 4-ton unit and 13.25 for the 3-ton unit. With savings of at least 0.099 kW per ton, this adds up to total air-conditioning savings of .693 kW.

The total electricity savings achieved with these three efficiency upgrades is 63.5 kW.

Further utility cost savings will result from Columbia's choice of natural gas two-stage rooftop heaters for general building heat and natural gas tube heaters for shipping and receiving areas.

Designing it right. Reaping the rewards.

Columbia focused on two of the biggest draws on electricity in commercial buildings – lighting and air conditioning. Their energy efficiency choices will deliver long-term savings and benefits. Operating savings from the electricity upgrades include:

A 63.5 kilowatt (kW) reduction in monthly peak power (demand) usage.

Energy savings of 63,500 kilowatt-hours (kWh) for every 1,000 hours that the lights are on.

Total energy savings of 177,821 kWh

Greenhouse gas reduction of 32 tonnes

Columbia Sportswear Distribution Centre, Strathroy

At 8 cents per kWh of energy and $9/kW of demand—costs roughly equivalent to those paid under general service arrangements with some of Ontario's local distribution companies—Columbia Sportswear's electricity cost savings will be substantial.

The new lights offer advantages in addition to energy savings. These include cooler operation and long lamp life. Natural gas efficiency choices add further dollar savings and enhanced comfort.

On the basis of the demand reduction, Columbia Sportswear received an incentive of

$15,875

from the Ontario Power Authority's High Performance New Construction (HPNC) Program.

Lessons Learned

A new building is a major undertaking for any business. It is also a major opportunity to get things right—from the start. Mike Newton, McKay-Cocker's Manager for LEED/Green Construction, underlines the considerable cost advantages of incorporating energy efficiency measures in the design and construction phases:

> *In a new building the incremental costs of efficiency measures are very low, so it represents a one-time opportunity to install energy-efficient options at a relatively-low cost. If a building owner had to re-lamp or put in new heating or air conditioning units later on it would be very costly and disruptive.*

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OPA's High Performance New Construction (HPNC) Program

The Ontario Power Authority's HPNC program, delivered by Enbridge Gas Distribution and Union Gas, offers incentives to incorporate electricity efficiency in the design and construction phases of new buildings, additions and major renovations.

Incentives are available for both prescriptive projects (where builders choose from the OPA's menu of pre-approved technologies) and custom projects (where building modelling is used to determine the impact of site-specific efficiency upgrades).

Eligible new building projects include: office buildings, industrial buildings, retail spaces, multi-unit residential buildings, affordable housing complexes, colleges, universities, schools, hospitals, long-term care facilities, agricultural buildings, hotels and motels. Single-family dwellings are not eligible.

Find out how you can qualify by phoning 1-888-OPA-HPNC, visiting **www.hpnc.ca**, or emailing **hpnc@enbridge.com.**

To qualify for the HPNC Program, a project must be located in Ontario (excluding the 416 area code), conform to Part 3 of the Ontario Building Code (OBC), and be intended for commercial, institutional, industrial or multi-unit residential occupancy. Agricultural buildings may apply. Applications will be accepted for approval through late fall 2010, and projects must be completed, evaluated, and delivering energy savings by December 2012. Buildings that obtained a building permit between August 2007 and March 2008 may also be eligible.

Program Highlights

$250 per verified kW saved in the prescriptive stream

$200-$250 available per verified ton for alternative energy measures

Up to $60 per eligible in-suite appliance in multi-residential new construction

$250-$400 per verified kW saved in the custom stream

$50-$100 per verified kW saved available to design decision-maker in custom stream

100% of building modelling costs, up to $10,000

Available throughout Ontario outside 416 area code.

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