

## Adding Another Level of Emergency Support: Auxiliary Power at Pickering Nuclear Plant

Ontario Power Generation's (OPG) Pickering Nuclear Generating Station, located on the shores of Lake Ontario just east of Toronto, is one of the world's largest nuclear generating facilities. With output of approximately 3,100 MW, Pickering provides enough power to provide for a city of 1.5 million people.

Following the blackout of August 14, 2003, OPG initiated the Auxiliary Power Supply Project. The APS Plant was required to provide standby power to the Pickering facility in the event of a major power outage of the Ontario grid. Black & McDonald Southern Ontario's Electrical & Utility Region in joint venture with AMEC was contracted to design, procure, construct and commission the APS

plant, which began in December 2005.

B&M's team was led by **John Niro** (Construction Manager), **Jack Taylor** (Electrical Supervisor), **Tony Antinucci** (Civil Coordinator), **Dave Gale** (Mechanical Supervisor) and **John Kulasingham** (Testing and Commissioning Supervisor). The scope of work consisted of site preparations, civil foundations, CTU's and auxiliaries, liquid fuel storage, auxiliary diesel generators, control systems and telemetry, power plant site buildings (two auxiliary buildings and one maintenance building), 13.8 kV switchgear, electrical protection equipment, terminal point equipment, fire protection system, 13.8/230 kV transformer, and the installation of facility security measures. Construction of the plant was completed in July 2007.

The contract to tie the APS in to the power grid and the Site Electrical System was awarded to Black & McDonald as a separate project from the APS Plant. The work consisted of 230 kV cable and modifications to the transformer station to tie into the

power grid. This also provides normal power supply to the APS and provides a facility to test the APS. The plant is tied into the site electrical system by 5 kV cables supported on a trestle which also spans approximately 100 feet across the outfall.

B&M's team on this project was led by **Marcus Naughton** (Project Manager) **Kevin Folk** (Project Coordinator), and **Kevin Tomasi** (Electrical Supervisor).

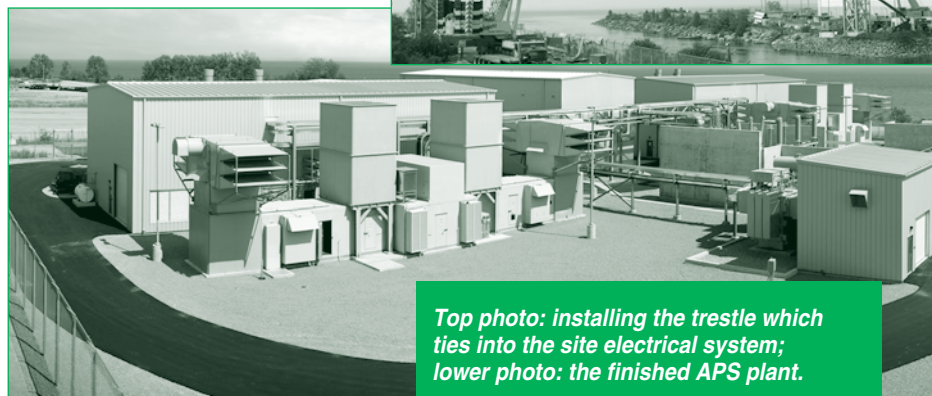
The AMEC Black & McDonald Joint Venture was recently awarded a 2-year Troubleshooting and Maintenance Service Contract for the APS Facility. The contract will be a joint effort of the FMO Division of SORM and the Field Services Division of SOEUR.

### Safety Award Presented to B&M Technician

In September 2007 **Hans Kuivenhoven**, HVAC Service Technician in the London Branch, received recognition from Nemak Windsor Aluminum Plant for outstanding safety awareness. This recognition was a result of actions Hans had taken August 7, 2007 while on his way to their facility.

As Hans was arriving at Nemak, an industrial lawnmower collided with a hydro pole causing the pole and live wires to fall across the main road just outside the plant. Being first on the scene, Hans took control of the situation by setting up a roadblock to prevent traffic from crossing the live wires

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Top photo: installing the trestle which ties into the site electrical system; lower photo: the finished APS plant.

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## National 2005 Works With Ethanol

The industrial division of Black & McDonald, Quebec region, better known as National 2005 has completed three contracts for the Greenfield Ethanol plant located in Varennes, Quebec. Our contracts comprised two electrical and instrumentation projects and one in mechanical and piping.

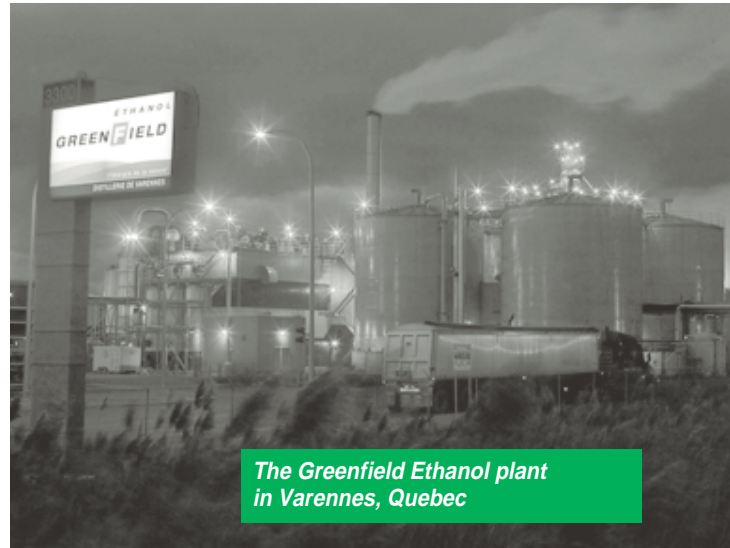
With a capacity of 120 million litres, the Varennes plant is the first of its kind in Quebec. The main ethanol producer in Canada has announced publicly that the start-up of this plant went without any problem and the installation has already reached all the production's objectives.

The product necessary for this operation is cultivated in a radius of 70 km from the plant and is bought by the intermediary of Pro-Ethanol which consolidates approximately 500 producers in the Quebec corn industry who have invested in the Varennes plant.

The addition of ethanol to fuel produced by the plant reduces the emission of greenhouse gases by 90,000 tons which is equivalent to the removal of 15,000 vehicles from our roads.

Two other plants are being built at Hensall and Johnstown in Ontario and should be operational by 2008.

We would like to congratulate and thank the entire project management team of the client for their interaction and their collaboration throughout the execution of our projects. We would like to take this opportunity to underline the efforts of the site team as well as the client's representatives: Mrs Manon Bérubé, Mr. Gilbert Villeneuve and Mr. Michel Dupont for their professionalism.



The Greenfield Ethanol plant in Varennes, Quebec

### National's Name Change Coming In February

Effective February 4, 2008, National 2005 will begin operation as the Industrial Division of the Black & McDonald Quebec region.

Since Black & McDonald acquired National 2005 almost three years ago, the integration into the Quebec region has gone extremely well.

With a solid management team, good field personnel and excellent customer relationships, the addition of National 2005 has really bolstered our Quebec operations.

This success would not have been possible without the support of National's employees and customers. Under the Black & McDonald name, we look forward to building on these relationships and continuing to grow the presence of Black & McDonald in the province of Quebec.

## Helping Associated Proteins Meet Productivity & Safety Goals

Associated Proteins Limited Partnership (APLP) is the largest expeller-pressed oilseed crushing plant in the world, offering one of the healthiest vegetable oils to customers. The plant, developed with chemical-free crushing technology, has been dormant for more than seven years and after only two years back in production, the daily crush capacity is 1,000 metric tonnes of oilseeds.

Black & McDonald's new facility maintenance contract with Associated Proteins requires more than a dozen tradespeople to provide full service plant maintenance.

Under the management of **Randy Docherty**, FMO Manager, Winnipeg and with the support assistance of **Dan McCann**, Facility Specialist, Scarborough Office, the FMO Maximo System is programmed and running. This immediate level of productivity is thanks in a large part to the leadership of **Paul Turner**, Senior Project Manager, Winnipeg, who is on site providing Black & McDonald's management. Paul has built a team of talented millwrights, electricians, apprentices and fitters who all work to keep the plant running 24/7 and are focused on returning the plant to pristine condition.

Foreman **Ken Funk** leads a team made up of Journeymen Millwrights **Kevin Sumka**, **Guy Wilcott**, **Bob Ryan**, **Walter Horzela**; Apprentices; **Launa White**, **Curtis Nolan** and **Riley Evans**, with Electrician **Jeff Vnuk**. This contract also includes placement of a B&M Safety Officer, **Donna Turner**, who is developing a comprehensive Workplace Health and Safety Program for APLP based on B&M's Behaviour Based Safety Program. Combined safety training includes both B&M and APLP staff encouraging shared knowledge and fostering good working relationships between the teams.



The APLP's Ste. Agathe, Manitoba facility, located just outside Winnipeg

# Ottawa's Wastewater Gets High-Tech Treatment

The Robert O. Pickard Environmental Centre (ROPEC) is the City of Ottawa's major wastewater treatment facility; the plant processes 420 million liters of wastewater per day, from sources as far away as 55km.

## BBS Program Goes Company Wide

Our newest initiative towards the reduction of accidents and injuries in the workplace began in earnest throughout Black & McDonald in November with the introduction of our new Corporate Safety Program called Behaviour Based Safety or 'BBS'.

BBS is a systematic process that will reduce injuries in the workplace through the identification and elimination of 'at risk' behaviours.

BBS is 'a new way of thinking' that must be adapted by all if we are to succeed at reducing our accidents and incidents even further in the coming years.

The traditional Safety programs, the compliance oriented, and the systems oriented programs of the past and present form the foundations of an excellent Safety program but only go so far towards preventing accidents. The status quo Safety systems of today have reached their maximum effectiveness. They will not take us to the next level of 'ZERO' incidents that we desire.

The objective of BBS is to reverse this trend by using a number of different processes. Changing our behaviours about how we do things, conducting last minute risk assessments, observing the work, providing positive feedback, coaching, tracking, recording, and trending of our progress, communicating our strengths and weaknesses, and above all celebrating our successes are all part of the BBS process.

BBS is not new to B&M. For several years BBS has been actively promoted at AMEC B&M in Nova Scotia, at our Power Generation sites in Ontario, at our Petro Canada site in Montreal, and most recently at our Imperial Oil sites in Ontario and Manitoba.

With the training of our supervisors now complete the next phase will be to vigorously promote BBS company-wide to all employees.

Also beginning immediately BBS training will be included in the orientation sessions for new employees.

We believe in Behaviour Based Safety.

For BBS to be most successful however we must diligently practice in its processes. By doing so we shall reap the rewards which come by having a safer and accident free workplace for all our employees.



**A ROPEC Digester tank under construction: Canada's first large-scale digesters**

In 2004 the City was instructed by the Ministry of the Environment to re-direct waste products from their two main water treatment plants to ROPEC. This created an urgent need for additional digester tanks at the ROPEC facility to comply with the new legislation.

In February 2005, Doran Construction was awarded the \$44.4M contract to erect two new digesters at ROPEC. Digester tanks are cylindrical concrete structures that host an anaerobic bacterial process that turns left over waste sludge into beneficial bio-solids.

The digesters specified were highly technical, pre-stressed concrete structures, the first of their kind ever built in Canada. Each new digester is 38m tall and 24m in diameter with tapered bottoms to minimize cleaning & maintenance activities. The digesters were built in sections: each individual curved panel was 12 ft. wide by 1 ft. thick by 66 ft. high. Each digester holds 12.5 million liters of fluid.

The City of Ottawa was mandated to complete both tanks, commission the new digester systems and tie them into the overall ROPEC operations by June 2007. Building unique complex structures under an aggressive schedule is quite an imposing challenge. Virtually all equipment and associated pipe, duct and wiring had to be an explosion-proof design. Throughout construction, the existing wastewater treatment processes had to remain 100% operational. Each new system had to be commissioned as a stand-alone and then seamlessly tied into the existing process systems.

Black & McDonald performed the \$13.5M Mechanical/Electrical/ Controls subcontract for Doran. This included all the main building plumbing, HVAC, lighting and power systems. Black & McDonald also had to supply, install and commission all the process systems.

Special thanks to the ROPEC lead team: **Tony Dolan, Denis Lemieux, Marc Forcier & Danny Waghorn** and to all the Black & McDonald personnel for their excellent performance on the project..

## Safety Award Presented by Nemak

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and making sure the driver of the mower remained in his vehicle until help arrived to prevent possible injury. Once emergency crews arrived at the scene, Hans continued helping by directing traffic and maintaining safety at the scene.

Dave Bose of Nemak witnessed the event from the plant and called the Black & McDonald office to express his appreciation of Hans' actions saying "not many people would do what he did for the benefit of others."

In addition to the recognition received from Nemak, Hans was nominated and recognized through the Black & McDonald Ltd. Service Quality Recog-

niton Program for exceeding expectations of both our internal and external customers.



**From left to right: Russell Bechard, Health and Safety, Nemak WAP; Hans Kuivenhoven, B&M Service Technician; and Clint Delong, B&M Service Foreman.**