

Neighbours

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Quick response to Blackout a tribute to Darlington staff



Senior Vice President, Gregory Smith and Darlington staff celebrate the complete restoration of power after the August 14th Blackout.

Just as a crisis brings out the best in people, it can also bring out the best in a company. The "Big Blackout" of August 14th showed how OPG and its employees could perform in an emergency – one unprecedented in its size and scope.

At Darlington Nuclear generating station, a team of dedicated professionals swung into action to restore power after the huge blackout hit Ontario and northeastern United States.

The most important consideration during the grid failure was safety. "The focus of the team was to ensure that at all times the units would be in a defined safe state, the fuel would be cooled and personnel and public safety would be maintained," said Warren Bull, Shift

Manager during the blackout. "The operators were diligent and professional in their attention to the myriad of details and procedures."

During the first evening of the blackout, Darlington operating staff were able to keep Unit 3 at 59% of full reactor power, disconnected from the provincial grid but still creating steam. Late in the evening, operators began producing electricity from the unit and it was connected to the restored grid. The unit was back at full power by Friday, August 15.

The other three Darlington units were placed in a zero reactor power state, which means the reactor is not capable of producing sufficient heat to make steam. From this state, they were all reconnected to the grid by Monday, August 18.

"Nuclear units are designed for continuous operations and not for quick start ups," says Ontario Power Generation President and Chief Executive Officer Ron Osborne. "Our operators made the correct decisions in placing each unit into a safe state, placing safety over every other consideration."

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a word with Gregory Smith



Senior Vice President

The holiday season is a time to be enjoyed with family and friends. It's a time of celebration. After safely managing two major station outages over the past few months, Darlington Nuclear employees have earned both.

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During the province-wide blackout in August, we managed to keep one unit available and returned the other three units to service four days later. Then, we began our planned Station Containment Outage in early October. The magnitude and complexity of these outages required many of our employees to work additional shifts. I appreciate that they missed time with their families, friends, and community commitments.

I am proud of the capabilities and the commitment that my fellow Darlington employees demonstrated in safely meeting the challenges posed by these outages. I hope that you, their family and friends are too.

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This is also a time for reflection on achievements during the past year and resolving commitments for the upcoming year. At Darlington Nuclear, we have much to celebrate:

- Our personnel safety record continues to be good. This year, we have worked for more than eight million hours with just one lost-time accident -- in January, an employee tripped in a stairwell and was injured.
- After extensive audits, we retained our ISO 14001 for Environmental Management System certification and our international designation as a Wildlife Habitat.
- Our units were reliable and contributed between 15 and 20% of the province's electrical needs.
- Our community citizenship was recognized when we were named Corporate Citizen of the Year by the Municipality of Clarington and Business of the Year by the Clarington Board of Trade.

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We are committed to building on these and other successes, while continuing to improve our performance in 2004. Our primary focus remains on safely operating Darlington for our community and employees, while providing reliable, cost-effective power.

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On behalf of myself and everyone at Darlington Nuclear, I wish you and your family a happy and safe holiday season!

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Off-duty employees came to work so see how they could help and some even came home from vacation. One employee borrowed gas from a neighbour's lawnmower fuel tank in order to get to work.

The power delivered by Darlington was critical to maintaining supply to the province during the week following the blackout.

"This type of effort speaks volumes about the strong sense of teamwork and leadership that is helping to lead Darlington to best-in-class performance," said Senior Vice President Gregory Smith.

Report Cards released for 3rd quarter



Ontario Power Generation has released report cards outlining performance of its nuclear operations for the third quarter of 2003.

These quarterly documents measure program effectiveness in a number of key areas focusing on public and employee safety, and environmental and production performance.

The report card for Darlington nuclear generating station measures such things as production, radiation exposure, safety issues and other performance indicators.

The material is available at the Darlington Nuclear Information Centre, on the Ontario Power Generation Web site (www.opg.com) and by "fax-on-demand" by calling 1-800-238-7718, then asking for story code – 10920.

Employee Profile

Kim Doyle

Radiation Protection Coordinator
and Admin Support



A caring for children, co-workers and her community

Bomanville resident Kim Doyle goes the extra mile for her children, her OPG co-workers, her community, and ... herself!

When opportunity knocked in the form of a "non-traditional" role at OPG's Darlington Nuclear generating station, Kim took the leap. For about four months a year, Kim leaves her office job for the plant's reactor vault. There, as Radiation Protection Co-ordinator, she ensures that contractors and other nuclear energy workers' radiation dose is minimized as much as possible while working in the vault and other radioactive areas. After her 60-hour-a-week stint in that role, Kim welcomes the return to her regular 35-hour-a-week duties as Clerical/Administrative Support, Admin III.

What prompted Kim to be among the first to take advantage of that precedent-setting training opportunity? "I love the challenge of learning something new, working in a different environment, and meeting new people," she confides. The green badge (the highest level of qualification for radiation protection) that Kim proudly sports, signifies that she's earned her stripes as a resource for planned plant outages.

In addition to her safety helmet for plant wear, Kim wears other 'hats' at Darlington, among them that of active steward for the Power Workers' Union. Another she's remembered for is that of organizer of the Darlington

children's Christmas party. While busily involved in preparing for one of the parties, Kim was taken aback when her son Brad begged her to save some time for him at the party. From that pang of guilt sprung a new undertaking: organizer of the Darlington Children's Food & Toy Drive that brightens the Christmas morning of less fortunate children.

"I volunteered for it because I viewed it was a way of involving my sons Brad (10) and Kyle (8), giving them (and myself, of course) an opportunity to help the children in our community."

Here's how the drive works. After a couple of weeks of collecting food and toys, Kim and a team of volunteers spend two hours on a December morning soliciting loose change and bills from fellow OPG employees. With their 'loot' – generally around \$2,500 – Kim and her sons set out for local stores.

"Brad and Kyle have a good eye for what teens want for Christmas, things like skateboards, ice skates and other kinds of sports gear. I focus on infants: car seats, strollers, clothing, formula, and diapers. Participating in the Food & Toy Drive has heightened my children's awareness of having compassion for those less fortunate." OPG provides a vehicle to transfer the merchandise to the station where employees can see what their donations bought. "Last year was just incredible in terms of quantity," recalls Kim.

"Our lobby was filled!" The gifts are delivered to the Durham Regional Police Food & Toy Drive for distribution to children in local communities.

What motivates Kim to go the extra mile for others? Without hesitation, the busy single mom says, "My boys."



Station Containment Outage



For most of October, all four operating units at Darlington Nuclear generating station were quiet. That means more than 3,500 megawatts of power were not available to Ontario consumers for the better part of a month.

It's very unusual for the entire station to be silent, but once every six years an outage is planned to perform maintenance and testing on a number of systems that can only be worked on when no units are operating.

"This is the biggest outage ever undertaken at Darlington," said Outage Manager Brian Duncan. "We have worked closely with the Independent Electricity Market Operator (IMO) to minimize any impact an outage of this size would have on the supply of power to the province." (The outage was originally planned for the spring of 2003, but was postponed until the fall at the request of the IMO.)

This complex outage has taken more than two years to plan. In total, some 17,000 tasks were completed. "Picture a puzzle with 17,000 pieces, and having to fit each piece in just the right spot," says Brian. "It presented some real challenges because it was a puzzle that moved around as we progressed through

the outage. In the end, everyone worked together and that led us to success."

The major program was to pressure test and inspect the buildings and structures that house the reactors, known as the "containment" system. This is part of a licensing requirement of the Canadian Nuclear Safety Commission to ensure the continued safe and reliable operation of the plant. As well, several emergency safety systems that are common to all four units underwent maintenance and testing.

Hundreds of temporary employees were brought in to help with the major programs, including trades staff from Pickering Nuclear. The newcomers received about nine days of training to familiarize them with Darlington's strict conventional and radiation safety programs.

When the "containment" portion of the outage was complete, the operating units came back on line one at a time, with Unit 2 remaining out of service for a few weeks to complete a planned maintenance program.

With all four units back up and running, Darlington will be supplying much needed power to Ontario during the high-demand winter season.

Pressure Test a key part of Station Containment Outage



A pressure test of the buildings and structures that “contain” the four Darlington reactors was successfully completed during the recent Station Containment Outage.

The test is required once every six years under terms of our licence with the Canadian Nuclear Safety Commission. It involves pressurizing the containment structure to its design value, holding the pressure for about four hours and checking leakage rates. The volume of containment is approximately 150,000 cubic metres - the equivalent of five football fields, five storeys high.

The containment structure test area includes all four reactor walls,

the fuelling machine duct, fuelling facilities auxiliary areas, common services area, pressure relief duct and pressure relief valve manifold.

To test the leakage rate, about 100 people in teams of two or three sprayed a soapy material over about 2,000 “imbedded” parts – locations where pipes and cables go from one side of containment to the other. Then they looked for bubbles, much like you might do to find a small leak in an inner tube.

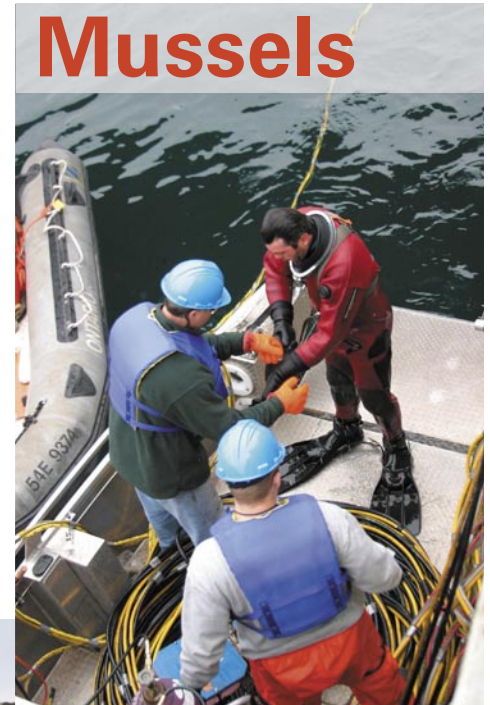
The leak search went extremely well and showed that after 10 years of operation, the containment structure is in good shape and is operating as designed.

Cleaning out the Zebra Mussels

With the operating units out of service during the Station Containment Outage, large pumps that supply the station with cooling water were shut off, providing a chance to go on a search for Zebra Mussels.

Divers inspected each of the underwater pumphouses and the intake structure to determine the extent of Zebra Mussel build up that impedes water flow into the station. The divers were able to scrape Zebra Mussels from intake screens, and other structures and walls in the intake channel.

A huge mass of Zebra Mussel shells was vacuumed from the bottom of the channel and amounted to a pile that was 40 yards long, 15 yards wide and four yards deep, estimated to weigh about 600 tonnes. The shells will be sent to landfill for recycling and used as compost.



Diver prepares to enter waters



Next Generation

About 160 Grade Nine students joined our workforce for **Take Our Kids to Work** day in early November. Maintenance Assessor John Robinson spent the day with his niece, Sarah Mattina and showed her how to inspect a valve.



Jim Murdoch takes his son Kevin Murdoch on a tour of the Darlington facilities.



Need a SPEAKER?

Give us a call

Looking for a speaker for your group, professional association, service club or industry seminar?

Darlington Nuclear established a Speakers' Bureau earlier this year and we have talked with more than 100 groups. Whether it's a specialized area, technical subject or a general interest topic, there's a speaker for your group.

We're looking for opportunities to share the Darlington story with the community. If you're interested, please contact Don Terry, Darlington Public Affairs Manager at 905-697-7443 or send him an e-mail at don.terry@opg.com

Scientists IN THE SCHOOL

We're pleased to partner on another initiative to enhance educational experiences for Clarington students this school year.

Scientists in the School are booked to visit more than 180 elementary classrooms during the current school year.

Scientists in the School is a not-for-profit organization committed to encouraging young students to get involved in science through classroom visits with fun-filled and hands-on experiments.

It's a very successful program and we're pleased to help bring Scientists in the School to our community.

Holiday Hours

Our Information Centre is generally open weekdays

from 8 a.m. to 4 p.m., except on holidays.

Public Affairs staff will be enjoying time with their families

from December 22 to January 5, and our Information Centre will be closed for that period.

Neighbours

Darlington Neighbours is published for neighbours of Ontario Power Generation Darlington Nuclear.

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