

# DARLINGTON NUCLEAR

*Neighbours Newsletter*

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## Lessons Learned From Japan

Following the earthquake and tsunami in Japan, OPG immediately began working with Canada's nuclear regulator, the Canadian Nuclear Safety Commission (CNSC), and nuclear industry groups such as the World Association of Nuclear Operators (WANO) to understand and learn from this event.

"Within a week of the event, OPG launched an experienced team to review the early lessons learned and report all findings to the CNSC," says Wayne Robbins, Chief Nuclear Officer. "Our station inspections and reviews are now complete and demonstrate that OPG nuclear facilities are safe, robustly designed, and will withstand emergencies."

This doesn't mean that OPG will be complacent. A thorough review of additional lessons learned from Japan continues as the team examines potential improvement opportunities for events beyond what had been previously imagined. OPG will also continue to offer its assistance to Japan.

\* \* \*

OPG President and CEO Tom Mitchell was named Chair of the WANO Post-Fukushima Commission. The 14-strong international committee will advise on how lessons learned can be applied by operators of all nuclear facilities around the world.

### Annual Environmental Monitoring Results 2010

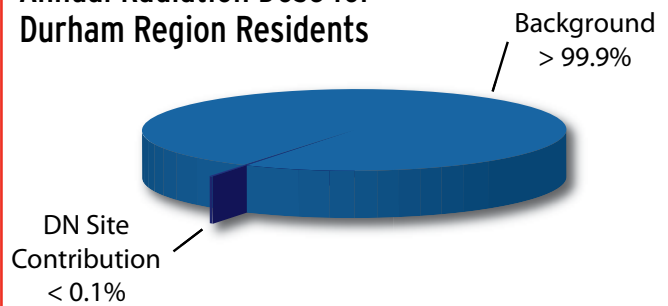
The Radiation Environmental Monitoring Program (REMP) annual report for 2010 has been issued and it demonstrates that the highest possible public radiation dose from the operation of Pickering Nuclear and Darlington Nuclear is 0.1% of the regulatory limit. And for most people living in Durham Region it is even less.

"We practise the ALARA Principle (As Low As Reasonably Achievable) and set our own internal target at less than one percent of the regulatory limit," says Pierre Tremblay, Chief Nuclear Operating Officer. "We're proud to achieve our target year after year."

Darlington's annual public dose dropped from 0.7 microsievert to 0.6 microsievert and Pickering's dropped from 1.8 to 1. The annual regulatory limit is 1,000 microsieverts.

By comparison, 1,400 microsieverts is the annual natural background radiation dose for residents of Durham Region.

### Annual Radiation Dose for Durham Region Residents



The results are based on constant monitoring of any station emissions and results of thousands of samples taken from a variety of sources including air, lake water, beach sand, fish, vegetables, milk and soil. The REMP report is verified by an expert independent third party.

The report for 2010 is now available at [opg.com](http://opg.com).





## A message from Stu Seedhouse, Senior VP

Following the events around the Fukushima nuclear station in Japan, we would expect our nearby residents to have some questions and concern. So, we have

continued to proactively seek opportunities to provide you with answers.

Last month, we hosted a presentation with a question and answer session for local business leaders -- members of the Clarington Board of Trade. We talked about the geological differences, along with the station design and operational differences which mean we won't ever face a nuclear event like the one in Japan. And we answered some well thought out questions. By the end of the session, we believe all participants felt better informed and assured of our safe station operations.

What may surprise you is that as employees of Darlington Nuclear, we too had questions as we watched the situation unfold in Japan.

As part of a continuous learning organization, we are always asking ourselves what we can learn from our experiences and the experiences of others. We're constantly striving to be better.

So, while we're confident in the continued safe operation of our nuclear stations, we're not complacent. We immediately launched a team back in March to review the lessons learned from Japan. The team has completed its station inspections and reviews which demonstrate that OPG nuclear facilities are safe, robustly designed, and will withstand emergencies.

This doesn't mean we're done asking questions. A thorough review of additional lessons learned from Japan continues and all findings will be reviewed with our regulator, the Canadian Nuclear Safety Commission.

I want to close by encouraging you to contact us if you ever have any questions or concerns at 905-623-7122 or [darlingtonnuclear@opg.com](mailto:darlingtonnuclear@opg.com).

**Stu Seedhouse,**  
Senior Vice President,  
Darlington Nuclear

# Big Becky Breakthrough

Late last month, there was a historic event in the largest and most economical clean energy project in Ontario as Big Becky broke through to daylight.

Completion of the tunnel's boring machine's 10.2 km journey beneath the City of Niagara Falls is a major milestone in the project. While there have been challenges with the project, President and CEO Tom Mitchell said, "This difficult phase was completed safely with no fatalities or serious injuries. That is a tremendous accomplishment and everyone on the project should feel proud of this."

When completed in 2013, OPG's Niagara Tunnel will provide enough additional water to the Sir Adam Beck stations to generate clean energy for about 160,000 homes.



## Ten Million Hours Without a Lost-Time Injury

Employees at Darlington Nuclear have now surpassed 10 million hours worked without a lost-time injury. That's world-class performance spanning more than three years.

Meanwhile Pickering A employees have worked more than three million hours without a lost-time injury and Pickering B employees have worked

more than five million hours without a lost-time injury.

"OPG is committed to safety and the principle of Zero Injuries," says Stu Seedhouse, SVP of Darlington Nuclear. "We're determined to send employees safely home to their families at the end of each work shift. We work hard and smart to make that happen."

This safety performance has not gone unnoticed by the industry. Ontario Power Generation became the first Ontario recipient of ZeroQuest Platinum (Sustainability) Award from the Infrastructure Health and Safety Association.

## Drop by for a visit

For many years we've been hosting planned groups and drop-in visitors at our Darlington Nuclear Information Centre. We invite you to pay us a visit over the summer -- by yourself or when family or friends are visiting.

Many a local resident has come to our Information Centre at the prompting of visiting family or friends with an interest in nuclear power or the electrical industry. Their frequent departing comment has been "It was really interesting, I learned a lot and wish I had come here years ago."

Our self-serve Information Centre offers hands-on, interactive displays, videos, brochures, and staff to answer any questions you may have. There's no charge to visit and we're open Monday to Friday (excluding statutory holidays) from 9 a.m. to 3:30 p.m. We are located on Park Road just south of South Service Road (follow the signs). You can call us at 905-623-7122 or email [darlingtonnuclear@opg.com](mailto:darlingtonnuclear@opg.com).

We hope to see you soon!

# March Break Madness Draws Record Breaking Crowds

Darlington Nuclear was proud to host its annual 'March Break Madness' program as part of our ongoing efforts to give back to the community in which we operate. Thousands of visitors took advantage of a week of family-friendly fun. The variety of interactive, educational and entertaining events, all located close-to-home, proved to be a huge hit with community residents.

To all of those who attended these events, we extend a huge "THANK-YOU!" Attendance this year exceeded our expectations and the support of the community is instrumental in making events such as these a huge success.



*Signs of Spring were plentiful at the Darlington Waterfront Trail, as one and all enjoyed fun nature activities, crafts and horse-drawn wagon rides.*

# Happy To Host Scout Tree Planting



Darlington Nuclear Station hosted its annual Scouts Canada tree planting event in early May. More than 125 Scouts, parents, OPG staff and community volunteers helped plant 500 large Silver Maple, Tamarack and White Spruce trees on the Darlington site.

Tree planting is a major component of OPG's Biodiversity Management Program and Greenhouse Gas Management Strategy. In 2009, OPG planted more than 598,000 trees around the province. Over the years, OPG has planted approximately 3.9 million trees over 1,500 hectares of ecologically significant lands in southern Ontario.





# JOIN US! Tuesdays on the Trail



## Join Us! Tuesdays on the Trail at OPG Darlington Nuclear

Looking for something fun to do with your family this summer? Join us for eight Tuesdays in July and August for FREE, fun and educational activities at 10:00 a.m. or 1:00 p.m. on the Darlington Waterfront Trail. Activities are approximately two hours in duration. Children must be accompanied by an adult. Due to the nature of program activities, day care groups cannot be accommodated.

**NOTE: All programs require pre-registration. To register, please visit: [www.opg.com/community](http://www.opg.com/community)**

### Tuesday, July 5: UOIT Presents CSI: OPG

Leave no stone unturned! Come join the Forensic Science team from UOIT's Crime Scene Science Camp and learn how science can be used to solve crimes!

### Tuesday, July 12: Boots and Bugs

Boots recommended; bugs to be discovered! Join experts from Central Lake Ontario Conservation to discover the habitats and creatures that live in Coot's Pond. Then have fun making a craft.

### Tuesday, July 19: Animal Adaptations

Join Ganaraska Region Conservation Authority for a variety of entertaining games that will demonstrate how animals adapt and survive as their habitats change. An animal craft will complete the day.

### Tuesday, July 26: And he huffed and he puffed...

Can the CN Tower be built from newspapers and masking tape or a geodesic dome large enough to crawl into? Become a structural engineer and learn the "secrets" used to make structures stable and strong with Scientists in School. Discoveries sure to amaze!

### Tuesday, August 2: Splish Splash Fun

Splash around with Clarington Public Library and learn how many secrets of the deep you can find along the trail, play some water games and sign up for the 2011 TD Summer Reading Club. Be prepared to get wet on this splish splash adventure!

### Tuesday, August 9: Casting Call

An opportunity for the entertainer in your family to participate in live, outdoor summer theatre. Join The Driftwood Theatre group as they host "Shakespeare's Shorts," a unique blend of kid-friendly workshops and performances focusing on the works of William Shakespeare.

### Tuesday, August 16: Tweet, Chirp, Quack . . . What's That?

A keen eye, a good ear and binoculars (if you have them) are all you need as you discover the nature of birds and create a craft with naturalists from Darlington Provincial Park.

### Tuesday, August 23: Turtle Teachings

Spend time with Kim Wheatley from Shawanaga First Nation Reserve and discover the important role of turtles and the thirteen moon calendar in Aboriginal culture. Spot our resident turtles during a pond walk and make your own turtle shaker to sing songs with and then take home!

**Darlington Nuclear Information Centre: 905-623-7122**



**Neighbours**



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**ONTARIO POWER  
GENERATION**

# **WE'RE READY... EMERGENCY PREPAREDNESS**



*Ontario Power Generation (OPG) has forged strong working partnerships with provincial, regional, and municipal emergency organizations. New City of Pickering fire fighters are shown here receiving conventional fire fighting training under the watchful eyes of OPG training staff at our Wesleyville training facility.*

While the chance of a severe nuclear emergency at one of Ontario Power Generation's (OPG) stations is extremely remote, it only makes sense to plan and prepare as if it could happen.

Following the nuclear event in Japan, we've fielded some questions about emergency preparedness and we know others may be asking themselves the same questions. So we've added this two-page insert to our regular Neighbours newsletter to first offer you some background on who is responsible for emergency preparedness and then some answers to the questions we've been asked.

**No member of the public has ever received a harmful dose of radiation from a Canadian reactor in more than 40 years of operation.**

## **Who Manages Emergency Preparedness?**

The Province of Ontario has the overall responsibility for ensuring the safety of the public and managing any off-site response if ever required for a nuclear emergency. OPG, Emergency Management Ontario (EMO), part of the Ministry of Community Safety and Correctional Services, and the regional and local governments work together to protect the public.

Each organization has responsibility for a distinct area of emergency response. The people, plans, and procedures that are put in place for a nuclear emergency response can also be called upon during more common emergencies like train derailments, ice storms or industrial accidents. Briefly, the nuclear emergency response is divided into three areas of responsibility.

OPG's first responsibility is to make sure our reactors are designed, operated, and maintained in such a way that accidents won't happen. In the very unlikely event that an accident does happen, our responsibility is to make sure it is controlled and any radiation releases are minimized. OPG is also responsible for notifying external agencies to make them aware of any incidents. And we are responsible for the safety of our employees.

OPG also assists the Province and local municipalities with funding and planning support for their emergency programs.

EMO is responsible for the overall Provincial Nuclear Emergency Response Plan (PNERP) and public safety during nuclear emergencies. They would communicate any public action, if required.

Regional and local municipalities all have emergency plans in place. But just as importantly, it is their emergency responders –the police, fire and ambulance crews, with support from a host of other groups, which make sure the emergency plans are implemented properly. Plans are important, but it is trained people that make them work!



## Can what happened in Japan, happen here?

No. We will not face an earthquake and a tsunami of the magnitude suffered in Japan. Our nuclear generating stations are very robust in design and construction. Consideration includes highly unlikely accidents—even many happening at the same time. We have the ability to automatically shut down our reactors in less than two seconds. We have multiple back-up safety and cooling systems. We have several back-up sources of power to ensure our safety systems always remain available. All this gives us confidence that we will always maintain our ability to safely shut down and cool our reactors.

## How will I be notified if there is an emergency in Durham Region?

The Province, through EMO is accountable for managing any public action that might be required in the event of any type of significant emergency. Of course, they work closely with Regional and Municipal officials, as well as OPG who is responsible for providing station information to the province to assist with their decision making.

Durham Region, with funding from OPG, installed a public alerting system within the 3km zone around both the Darlington Nuclear and Pickering Nuclear generating stations. It is important to note that the system runs on batteries that are charged by solar panels so they are not affected by power outages.

If the sirens are activated, they will sound continuously for three minutes. Should this occur, residents are asked to go inside, and check for further instructions on local television and radio stations. It is not a signal to evacuate.

These sirens will be tested audibly each spring and fall. Durham Region will issue public service announcements in advance to ensure awareness.

An automated telephone system is also available for notification in the event of any emergency. An evaluation into possible enhancements to this back-up system has been launched, with funding from OPG.

## What should I do if I think I hear the siren but there's no information on television or radio?

Sometimes in the spring or fall, residents hear neighbourhood storm sewers being vacuumed and think it may be emergency sirens. A phone call to DEMO at 905-430-2792 will confirm whether the

emergency sirens have been activated or are being tested.

## How quickly would I need to evacuate in the event of a nuclear event?

In the worst-case scenario for a CANDU reactor where a series of highly unlikely events and equipment failures occur, the station would release a controlled, small amount of steam between 24 hours to three days later.

## How quickly can the 10km zone around the nuclear stations in Durham Region be evacuated?

This question was answered as part of the Environmental Assessment for the potential refurbishment of Pickering B. A study was completed by third-party experts and validated by key stakeholders. It was based on worst-case scenarios in traffic, weather conditions such as rain and snow, as well as peak travel times (to work, home from work, and long weekends). It included anticipated shadow evacuation of people beyond the 10km zone and the projected population to 2060.

The study demonstrated that in the highly unlikely event that an evacuation was required for the 10km zone around Pickering Nuclear, it would be completed well before any required release of steam from the station. It would only take between 4½ and eight hours.

## Why are there evacuation plans only for the 10km zone around the nuclear stations in Ontario?

The Province has conducted several studies on nuclear emergency planning --to ensure the Provincial Nuclear Emergency Response Plan protects residents in the highly unlikely worst-case scenario. This plan outlines what is necessary, including establishing the contiguous zones (3km radius) and primary zones (10km radius) around nuclear stations, as well as secondary zones (50km radius). While evacuation beyond a 10km zone is not anticipated, it can be achieved through existing procedures and processes.

## What are the designated evacuation routes?

There are no longer pre-determined designated routes as part of nuclear emergency planning. All possible routes out of the area will be utilized. Actual emergency experience and scientific analysis demonstrates that it is more effective to allow people to choose their own routes as they know best how to get where they are going.

## Where do I go? Are there evacuation centres?

In the event of any emergency requiring evacuation, reception centres are established to provide shelter and other support necessary for residents displaced from their homes. The locations are determined based on the nature and location of the event.

In the highly unlikely event of required evacuation due to a nuclear station problem, reception centres may be established at Legends Centre in Oshawa, Durham College in Oshawa, Seneca College in Toronto, York University in Toronto, and Fleming College in Peterborough.

However, unless directed to go to a reception centre, people may choose to go to another location outside of the evacuated area – for example, to a relative's home or a cottage.

## I don't drive. How will I get out of the area in the event of an emergency?

It is suggested that as part of your personal emergency plan, you consider family, friends, and neighbours who could provide you with a ride. If there is ever an emergency that requires your neighborhood to evacuate and you have no ride, then Durham Region and City of Toronto buses will use regular routes and stops to provide timely transportation.

A list of people requiring rides is not maintained as experience demonstrates that if you ever need the list, it is outdated with people moving in and out of the community and resources are wasted.

## Do I need to keep KI pills in my home?

Given the length of advance warning and ability to safely evacuate up to the 10km zone before any release from our stations, it is not likely KI pills will be utilized.

In the highly unlikely scenario of a nuclear event which involved the release of radioiodine, KI pills can be taken to minimize the absorption of radioiodine in the thyroid gland.

KI pills would be made available to people at the reception centres if needed. They are also stockpiled in schools, daycares, nursing and seniors' homes and hospitals.

People who live or work within the 10km zone around OPG's nuclear stations can obtain KI pills at no cost from designated pharmacies in Pickering and Clarington. Please visit [durham.ca/demo](http://durham.ca/demo) or phone 905-430-2792 for more details.

KI pills are only to be taken when directed by a public health official. KI pills have an expiry date and should be replaced accordingly.

## Where do I go to get more information?

For more information on Emergency Management Ontario, please visit [ontario.ca/emo](http://ontario.ca/emo) or phone 416-314-3723.

For more information on Durham Region's emergency preparedness, please visit their website at [durham.ca/demo](http://durham.ca/demo) or phone 905-430-2792.

For more information on City of Toronto emergency preparedness, please visit [toronto.ca/wes/techservices/oem/index.htm](http://toronto.ca/wes/techservices/oem/index.htm) or phone 416-392-4554.

For more information on OPG's emergency preparedness, please visit [opg.com](http://opg.com) or phone 905-837-7272 (Pickering Nuclear) or 905-623-7122 (Darlington Nuclear).