

**NOTE FOR REMARKS**  
**Jeff Lyash**  
**OPG President and CEO**  
**Ontario Energy Network Luncheon**  
**Dec. 12, 2016**  
**(Check against delivery)**

***Opening***

Thank you Gord and members of the OEN board.

It was a little over 12 months ago that I delivered my first luncheon speech in this room so I feel right at home this time around.

And Tracy and I feel very much at home in Canada -- due in no small part to the warm welcome I've received from many of you here today.

And we are becoming increasingly Canadian. After 17 months, I recently caught myself apologizing to someone holding the elevator.

So either Canada is indeed very good at assimilating immigrants, or the roughly 1000 plus cups of Tim Horton's coffee has changed my blood chemistry.

***Generating Power with Purpose***

A year ago, when I was looking for a theme for my speech, I quoted Mike Babcock.

I also said that I preferred the challenge of delivering the Darlington Nuclear refurbishment on time and budget, over trying to win a Stanley Cup in Toronto because I had a better team.

Now I still think I have a better team but I predict great things on the Leafs' horizon for two reasons: they have a talented American in Auston Matthews; and they have Mitch Marner, who happens to be the son of OPG retiree Bonnie Marner.

That's a damn good combination.

But I'm not going with a hockey theme for today's speech.

Instead, I'm going with a quote from Aristotle.

History indicates that he wasn't a very good skater, but he did have a great playoff beard.

Aristotle, whose name actually means *the best purpose*, once said:

*Where the needs of the world and your talents cross, there lies your vocation.*

I love this quote because it speaks to me of purpose.

And purpose is something we think about a lot at OPG.

Because we believe our purpose must be more than generating electricity...

That our talents should serve the needs of our province in a much larger way...

A way that looks beyond the bottom line to help improve the wellbeing of Ontario's communities and its residents.

We call it generating power with purpose.

In fact, *power with purpose* are the first three words of our mission statement.

Keeping all of our employees focused on that mission is particularly important in this era of technological, environmental and economic change.

### ***First Story - Nathaniel Sutherland***

Instead of following a traditional speech construct, I'm going to take my cue from a Native American proverb that says: Tell me the facts and I'll learn. Tell me the truth and I'll believe. But tell me a story and it will live in my heart forever.

Today, I'm going to tell you four stories about people, and I'll include some facts along the way.

The first story is about a young man from Taykwa Tagamou Nation.

He was a recent high school graduate living on reserve and wondering what to do with the rest of his life.

Opportunities are hard to come by in most places these days and considerably harder if you live in a remote northern community.

But he heard about a hydroelectric project being constructed on the New Post Creek by a partnership of OPG and Coral Rapids L.P., a subsidiary of the Taykwa Tagamou Nation.

So the young man contacted the partnership and asked if he could check out the project.

We tailored a special mentorship for him and he spent the next two months living at the site with some 140 construction workers.

He observed and learned everything about the \$300 million development.

He shadowed different departments such as structures, quality, piping, and he even tried his hand at 3D drafting software.

At the end of his two months, he knew exactly what he wanted to do and today, he's enrolled in the Civil Engineering and Technology program at Cambrian College in Sudbury.

That young man's name is Nathaniel Sutherland and he is a descendant of Peter Sutherland Senior, a former TTN Chief, after whom this hydroelectric development is named. In 2018, when the station goes into service, ahead of schedule and on budget, it will provide clean, reliable power for up to 25,000 homes.

This partnership, like our other partnerships at Lower Mattagami and Lac Seul, is producing real results.

But for Nathaniel, and the many others who worked, trained, learned skills and apprenticed on these projects, they provide something even more valuable – they provide a purpose and the skills to act on that purpose.

It's why I'm so proud of OPG's model for Indigenous relations.

We settled historic grievances with 21 First Nations; established mutually-beneficial hydro and solar development partnerships; hired local Indigenous suppliers and workers; and most importantly, we gave communities a share in the revenues.

They are true partners in every sense and that is why we succeeded.

Nathaniel couldn't be here today because he's studying for his exams but we'll be sure to send him all our best wishes.

### ***Second Story – George Legate***

My second story is about George Legate of Nu-Tech Precision Metals, a metal fabricator in Arnprior.

George's company is working on the Darlington Nuclear Refurbishment.

Darlington is one of the world's top-performing nuclear stations.

It safely and cost-effectively produces about 20 per cent of the province's electricity.

As Canada's largest clean energy project, the \$12.8 billion refurbishment will allow Darlington to provide 30 or more additional years of safe, reliable baseload power with virtually no smog or carbon emissions.

That works out to the equivalent of removing two million cars a year from Ontario's roads or 300 million tonnes of avoided carbon emissions.

Which is more than Alberta's total annual carbon emissions of 270 Mt, and almost double Ontario's total annual emissions of 170 Mt.

It's also \$15 billion in avoided carbon costs if you factor in a \$50-per-tonne carbon tax.

And studies by the Conference Board of Canada found the refurbishment project, together with Darlington's additional 30 years of operation, will boost Ontario's GDP by approximately \$89 billion, and create an average of 14,200 new jobs per year over the same period.

The refurbishment team has logged years of detailed planning and built a state-of-the-art training facility to help ensure this project is completed safely, on schedule and on budget.

As a quick aside, I'm pleased to report the first phase of the refurbishment, which involves removing fuel from the 480 channels inside the reactor vessel, is off to an excellent start.

We're actually ahead of schedule and under budget...

But it is a marathon and we know we have a long road ahead.

George's firm, Nu-Tech, is one of 60 plus companies from across Ontario directly engaged in the Darlington Refurbishment.

With approximately 96 per cent of the project's suppliers based in our province, this is truly a made-in-Ontario story.

Originally located in Connecticut, Nu-Tech started out supplying the nuclear industry in 1955.

They made pressure tubes for the Hanford nuclear reactor in Oregon. Hanford was used as the basic model for today's CANDU reactor.

As Canada's nuclear industry was ramping up in the sixties, so too was the need for Nu-Tech's zirconium alloy pressure tubes.

Since their first shipment in 1959 for a demonstration unit at Douglas Point near Kincardine, more than 17,000 pressure tubes have been produced for use in 40 reactors worldwide.

Nu-Tech has made every pressure tube operating in every CANDU reactor.

Canada, Ontario and the development of CANDU technology was the catalyst for Nu-Tech's success and the reason they decided to relocate to Arnprior Ontario in 1974.

At around this time, George Legate was studying metallurgy at the University of Toronto.

He went on to complete a Master's Degree at McMaster University and an MBA at Wilfred Laurier.

After starting his career with Atlas Steels and then Patriot Forge, George went to work for Nu-Tech as a materials engineer and has been with the company for the past 14 years.

In fact, he's now the President.

Nu-Tech's Ontario operations started out with seven key people who knew how to make pressure tubes for CANDU reactors.

That number grew to 30 and today they employ 50 people with plans to ramp up to 70 over the next year.

Their footprint has grown from 20,000 square feet in 1975 to more than 250,000 square feet today.

George will tell you that Nu-Tech's success is not just based on supplying pressure tubes for CANDU reactors; it's based on the new opportunities this work created.

Nu-tech has leveraged their equipment and expertise and is now supplying titanium piping for seawater desalination, nickel copper piping for submarines, titanium for aircraft like the Boeing 787 and the V22 Osprey, specialty piping for the mining industry, and pure copper tubes used in LCD panels and smart screen TVs.

These unique Arnprior products are exported around the world to countries like Israel, the United States, Korea, Germany, and Turkey.

It's no surprise that Nu-Tech recently won the Ontario Export Award as Manufacturer of the Year in the medium-size business category.

So when you consider the impact of the nuclear industry and of the Darlington Refurbishment, remember George Legate and the Nu-Tech story -- where talent and need has come together so perfectly.

Along with the clean, reliable power and long-term price stability, the Darlington Refurbishment's legacy will be felt by many companies and communities across Ontario for years to come.

There simply is no other form of power that yields as big a positive economic impact.

### ***Third Story – Mahir Aydin***

My third story is about Mahir Aydin, a 34-year veteran of OPG who saved the company, and electricity customers, more than \$200 million.

He also saved a maelstrom of highly endangered northern dusky salamanders.

By the way, maelstrom is what you call a group of salamanders -- that's your fun National Geographic fact of the day.

Mahir is an Engineering Manager with Renewable Generation and Power Marketing Division.

He and his team were tasked with overseeing the refurbishment of OPG's 750-acre reservoir at the Sir Adam Beck Pump Generating Station in Niagara Falls.

The PGS is a massive facility.

The perimeter of the reservoir is five kilometres in length, holds the equivalent of water from 8,000 Olympic-sized swimming pools and can store the same energy as one million electric car batteries.

Some of the water diverted to the Sir Adam Beck generating complex is typically pumped into the reservoir at night.

This scheme is very valuable to Ontario because it time shifts the generation of electricity from periods of low demand to periods of high demand on a daily basis.

The PGS was built in 1957 and is the only facility of its type in Canada. And, like other structures of its era, it needed repairs to extend its life.

An initial engineering assessment of the reservoir remediation came in at around \$300 million.

Mahir and his team looked at the proposed solution and determined they could achieve the same result at a lower cost.

So they hired Golder Associates and brought in an international panel of experts from Norway, the U.S. and Canada to provide independent technical oversight.

The new \$60 million solution included placing an impermeable liner in critical locations, combined with targeted grout injections.

It was a very elegant solution that strengthened the reservoir's integrity, provided the highest level of safety and saved *a lot* of money.

Then, a little problem popped its head up from the banks of the Niagara River.

A small amount of water, that naturally leaks from the diversion canal and trickles down to the Niagara River, provided the perfect habitat for our little friends, the northern dusky salamanders.

During the initial grouting trials, we discovered that some of the grouting substance was making its way into that habitat.

Grouting was suspended and, with help from the Ministry of Natural Resources and Forestry and the Ministry of the Environment, Mahir and his team changed the grouting process to protect the habitat.

I'm happy to report that grouting has resumed and the slimy maelstrom is still thriving. We'll make sure they continue to do so.

Once completed this winter, the refurbishment will add 50 more years to the reservoir's life.

That's 50 more years of renewable, low-cost hydro power for the province.

And it keeps Canada's largest active energy storage reservoir performing at its peak.

#### ***Fourth Story – Stephanie Smith***

Our final story takes us to the Pickering Nuclear Generating Station, one of Ontario's most important generating assets.

It provides 14 per cent of the province's electricity and does so reliably and with virtually no carbon emissions.

It also has among the highest industry safety ratings.

OPG continues to invest and improve Pickering's performance to ensure this important baseload electricity is available during the Darlington and Bruce Power refurbishments.

Its role in securing Ontario's clean power future is critical.

And continuing Pickering's operation to 2024 would save Ontario electricity customers up to \$600 million, contributing over 4500 jobs and \$1.2 billion a year in GDP to the Ontario economy, while avoiding a minimum of seventeen million tonnes of carbon emissions.

At \$50 a tonne for CO<sub>2</sub> that is \$850 million in avoided carbon cost.

While critics have their reasons for wanting to see Pickering closed down, I don't believe protecting customer price, the economy and the environment are high on their list.

And I think the facts speak for themselves.

More importantly, I know the people who run that plant and their commitment to safety and performance is unmatched.

Stephanie Smith is one of those people. She started her career at Darlington in 1990 as a Graduate Engineer in Training.

She spent eight years working in Engineering before moving on to the chemistry lab at Pickering.

In 2003, Stephanie enrolled in the shift supervisor training program and became the first woman licensed shift manager for Pickering Units 5-8.

This is truly a remarkable accomplishment.

She then went on to the assistant operations manager role, and then in 2014, became OPG's first woman maintenance manager, responsible for 800 maintenance staff and 200 contractors.

In February of this year, Stephanie was named OPG's first woman Director of Maintenance.

It's a huge responsibility but she didn't hesitate.

Having worked at Pickering for so long, Stephanie knew she had a special team.

She describes a culture of success -- wanting to do better; wanting to ensure the best possible performance for Pickering as it prepares to wind up its service to Ontario in 2024.

Pickering's employees are not daunted by the station's end of life; they are motivated by a clear purpose and proud to be doing this work.

Their goal is to ensure safe operations, to provide value to Ontarians, and to make Pickering's last day better than all the days that preceded it.

### **Closing**

I think those are four stories worth telling.

As Aristotle said *“Where the needs of the world and your talents cross, there lies your vocation.”*

It's true for people and I believe it's true for companies.

Whether it's building lasting, clean-power partnerships with northern First Nations...Creating innovation and thousands of good jobs through nuclear upgrades...

Renewing and expanding hydro stations across Ontario...

Or generating clean, reliable power, at a lower cost, for current and future generations.

So thank you to Nathaniel, George, Mahir and Stephanie for letting me share your stories.

And thank you all for listening.