

Tom Mitchell
President and CEO
Ontario Power Generation

to the
Durham Strategic Energy Alliance

April 2, 2012
Ajax, Ontario

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NOTES FOR REMARKS

Good morning everybody.

It's great to be in Durham Region again.

I've lived and worked in Durham for many years.

First, as head of the Pickering B nuclear station....and then, as OPG's Chief Nuclear Officer.

And I will testify – anytime, anywhere – that Durham is one of the best places in the world for a person to end up in.

I have a lot of great memories from my time here, and I met a lot of super people whom I admire and respect.

In fact, I see many of them in the audience today.

The fact that there are so many of you, testifies to the dynamic nature of Durham Region.

This is one of the fastest growing areas in Canada – with a population that's expected to reach one million in less than 20 years.

People are coming here for a reason.

They're here because they see a future. They see hope. They see success.

Much of the credit for this belongs to organizations like the DSEA and your commitment to Durham's progress.

As a founding member of the DSEA, OPG is proud to be part of this region and the bright future it represents.

Today, I want to talk about OPG's vision for the future – and our vision for success.

Durham is a big part of that vision.

As many of you may know, OPG is Ontario's largest electricity generator.

I emphasize the word "Ontario."

We span Ontario.

We are owned by Ontarians.

We serve Ontarians.

We are Ontario's low cost electricity producer.

The price we receive for the power we produce moderates the price of electricity for all Ontarians.

We are also a *sustainable* energy producer.

Last year in 2011, over 96 per cent – 96 per cent – of our electricity was low emission.

That means it came from our nuclear and hydroelectric plants – nuclear plants that are right here in Durham.

These sources produce virtually no emissions that contribute to smog, acid rain or climate change.

Going forward, I want to make sure OPG continues to be Ontario's low-cost, sustainable value-added generator of choice.

That's our goal.

OPG's Strategy for Success

And we have a growth plan to achieve it.

Our plan has four parts.

We're expanding our hydroelectric capability.

We're looking at converting some of our coal-burning units to burn biomass or natural gas.

We're revitalizing our nuclear fleet.

And we're transforming large parts of our business to further enhance our efficiency and cost-effectiveness as a company.

Hydroelectric Expansion

Breaking down our strategy further....

On the hydroelectric front, we're currently engaged in two major projects.

One is the Niagara Tunnel, which was recently featured in the April issue of *Canadian Geographic*.

This is our \$1.6 billion project to build a 10.2 kilometer tunnel under the city of Niagara Falls.

The Tunnel will feed additional water to our hydro stations on the Niagara River, enabling them to produce more electricity.

We finished excavating the Tunnel about a year ago and expect to have the entire project completed in 2013.

Our other project is the \$2.6 billion Lower Mattagami project in northeastern Ontario.

This is the largest hydro construction project seen in northern Ontario in 40 years.

It involves rebuilding and developing four of our existing hydro stations on the Mattagami River.

The project is expected to be in service by June 2015.

It will increase Ontario's supply of clean, renewable power by about 438 MW.

And it's creating hundreds of jobs in the region – including many jobs for First Nations and Métis peoples.

We're also looking at other hydro development projects -- representing a potential 2,000 MW of additional power, all of it clean, renewable and sustainable.

Thermal Conversion

At the same time, we're exploring the possibility of converting two of our thermal stations to use cleaner burning fuels.

We're looking at converting Atikokan station to burn biomass.

And we're looking at converting the two units at our Thunder Bay station to burn natural gas.

We're also exploring the possible conversion of some units at the Lambton and Nanticoke generating stations to natural gas, if required for system reliability.

As you know, OPG will stop burning coal by the end of 2014.

But we also want to preserve the value and contribution our thermal plants make to Ontario.

Conversion offers a way to do this.

Nuclear Revitalization

The third part of our growth strategy is nuclear revitalization.

This has three components:

- The refurbishment of Darlington;
- The preparation and construction of two proposed new nuclear units at the Darlington site; and
- the continued operation of our Pickering station until 2020 – including other potential opportunities we are exploring for that site

I'll say more about these elements in a moment.

Business Transformation

But before I do, I want to touch on the fourth aspect of our strategy – business transformation.

Business transformation means we're aggressively enhancing our focus on cost control and fiscal discipline.

We're reorganizing many of our business functions to become more efficient.

And we're taking a hard look at the external and internal forces that have changed the environment in which we operate...so that we can better identify new opportunities as they arise – and even before they arise.

One of our goals is to achieve cost reductions of approximately \$200 million over the next three years (2012-2014).

We're doing this – and others things – so that we can continue to moderate electricity prices, be Ontario's low-cost generator of choice and deliver consistent value to the people of Ontario.

...Without ever forgetting our primary responsibility – that of maintaining our focus on safe, reliable operations and continuous improvement.

Our Commitment to Value Includes Durham

That's our commitment.

It includes Durham.

It will always include Durham.

Our organization and your Region go back a long way.

And I see us going forward a long way.

Almost 50 years ago, in 1965, our predecessor, Ontario Hydro, broke ground for the building of the Pickering nuclear station.

Twelve years later, Ontario Hydro announced that Darlington would be built.

And it was built.

Its first units came into service in the early 1990s.

Today, Darlington is one of the best performing nuclear stations in the world.

Darlington's Strong Performance

Its achievements include – and this is just a selection:

- A major performance improvement award in 2007 from the Institute of Nuclear Power Operations – the first CANDU plant ever to receive this award.
- In 2008, three Darlington units were ranked as the three top-performing CANDU reactors in the world.
- This past year -- again – three of its units were among the top five performing CANDUs in the world.

And just last week, Darlington was given its best ever peer review by the World Association of Nuclear Operators – the world's most comprehensive nuclear safety organization comprised of operators from all parts of the world.

As I said, this is one the best performing nuclear plants in the world.

And it's located right here in Durham – serving Ontario and contributing to this community.

Darlington's strong performance is no fluke.

We work hard to keep the plant operating at a high level. Our approach includes:

- strategic investments;
- ongoing, targeted maintenance;
- effective outage management;
- an emphasis on plant condition and human performance;
- a focus on continuous improvement; and,
- an uncompromising, unconditional commitment to safety.

That means “safety” in the broadest sense – environmental, workplace and public.

Because without safety, nothing else we do as a nuclear company matters.

Which is why we are absolutely committed to operating our nuclear plants at the highest levels of safety at all times.

Which is also why we ask third party organizations like INPO and WANO to come and evaluate us on how well we measure up to this standard.

OPG's Post-Fukushima Improvements

And while I'm on the subject of safety, let me tell you what we've done to further strengthen our safety margins based on what we learned from Fukushima.

When the tsunamis struck Fukushima, they disabled virtually all emergency power -- leading to core damage, hydrogen build-up and ignition, challenges in cooling irradiated fuel bays, and the release of radiation.

OPG has since reconfirmed that our own plants are safe and that such an event would be highly unlikely to happen here.

For example, we have strong existing measures in place to guard against external events like the ones that occurred in Japan.

These include standby generators, emergency power generators and auxiliary power generators that provide a safety net of redundant power supply.

But this hasn't made us complacent.

After Fukushima, we took additional steps to give us *an even greater measure of defense than what we already have.*

They include New Passive Autocatalytic Recombiners or PARs. PARs help mitigate potential hydrogen gas hazards and build-ups – which were a significant issue at Fukushima. We've already installed PARS on our Pickering Unit 4 reactor and plan to install them on three more units in 2012. The advantage of this technology is that it operates independent of any electrical source. It would be unaffected by a loss-of-power situation similar to what occurred at Fukushima.

We have also secured portable diesel pumps and generators. These can supply essential fuel cooling through multiple paths in a flexible manner. They can also supply critical electrical power. The new diesel-driven pumps and diesel generators have now arrived at Darlington and Pickering. And staff training is in progress.

Altogether, OPG has almost a dozen post Fukushima safety projects underway or planned for implementation between now and the end of 2016.

These projects represent opportunities for improvement that we have identified as a result of our – and the industry's -- analysis of Fukushima.

They also represent a substantial investment on OPG's part.

As such, they reflect our commitment to strengthen the already robust safety systems at our nuclear plants.

Darlington Refurbishment

This relates as well to our plans to revitalize OPG's nuclear fleet.

We will incorporate the lessons of Fukushima into our revitalization program.

This includes the Darlington refurbishment and the proposed new nuclear units.

With respect to Darlington, given the station's excellent performance record, I can't think of a better candidate for refurbishment.

The plant is at mid-life, and it's a world-class performer.

Refurbishment will enable it to continue its excellent performance for another 25-30 years.

That's 25-30 more years of reliable, low-emission, large-scale baseload power – generated at an affordable cost per MWh.

We're making good progress on refurbishment.

In the past year alone:

We submitted the project description to our regulator, the Canadian Nuclear Safety Commission.

We conducted community information sessions to inform and consult with local residents about the project.

We initiated some important infrastructure requirements to support the project -- including breaking ground for the Darlington Energy Complex, which I'll come back to in a moment.

We also submitted two important documents to the Safety Commission -- the Environmental Impact Statement; and the Integrated Safety Review.

Just to give you an idea of the work involved in these submissions – the safety review was a 10,000 page document involving three years of work.

In November, we moved into the detailed planning stage of the project's Definition Phase – which means we are really digging down deep into the planning details now.

This is where we will get a much better idea of the project's scope and cost.

And just last month, we signed a \$600-million plus contract with SNC-Lavalin Nuclear Inc. and Aecon Industrial.

The contract will cover some of the project's most critical work.

This includes the planning and engineering for the removal and replacement of 480 pressure and calandria tubes and 960 feeder tubes in the station's reactors.

It also includes the construction of a mockup reactor critical to our tooling design and refurbishment training program.

This is one of several major contracts we plan to sign as the project unfolds.

There's no way you can do a project this size without proper planning.

Our approach is to break it down into manageable chunks.

The project is being planned and executed in two distinct phases – the Definition and Planning Phase, and the Execution Phase.

The Planning Phase is the period we are in right now and includes the preliminary and detailed planning activities.

And as I said, we are now really getting into the nitty-gritty part of the planning.

When Energy Minister Chris Bentley toured Darlington in February, he was impressed to learn that we were breaking down the work into increments of 30 minutes.

We're talking about a 15 year project – sub-divided into thousands and thousands of half-hour segments!

That's the level of detail we're engaged in.

Planning. Planning. And More Planning.

Based on our experience, that's the key to the project's success.

Darlington Energy Complex

And if you want to see something that epitomizes this approach, I can think of no better example than the Darlington Energy Complex that we're building at the Clarington Energy Park.

It's a 290,000 square foot facility whose sole purpose is to support our refurbishment activities.

We broke ground for it last July, and it's already taking shape. When it's completed by next summer, it will include:

- offices,
- a public information centre,
- a security processing centre,
- a tooling and testing facility, and importantly
- a training centre.

The big news is that the training centre will have a full-scale mock up of a reactor, just like the reactors at the station.

We'll use it to test tooling and train staff working on refurbishment, before they ever set foot inside the reactor to actually perform the work.

This will give us enough time to practise intricate work and perform a full "dress rehearsal" before we even begin the project execution phase.

Darlington Refurbishment Success Factors

I'm confident about this project.

Not just because of the planning, but because of a number of factors that position it for success.

- Excellent plant condition
- Experienced leadership

- Disciplined work, contractors and resourcing strategies, and
- A track-record of successful projects – like our recent Pickering Safe Storage project and the Pickering and Darlington Vacuum Building Outages.
- Plus we have excellent community support – which we are grateful for and which we know we can never take for granted. We work to earn your trust and support every single day -- by operating safely and responsibly.

Darlington Refurbishment: Economic Impact

Assuming refurbishment goes forward and succeeds its impact will be positive and significant.

Ontario's Long Term Energy Plan estimates capital expenditures for nuclear refurbishments and new nuclear in Ontario will be in the order of \$33 billion.

In Durham and Ontario, the benefits would also include a couple thousand new jobs during the planning and construction phase as well as significant spinoffs and secondary impacts.

In addition, refurbishment will allow OPG to operate Darlington safely and reliably for another 30 years. This also translates into long-term employment opportunities for the community.

As a member of this community, OPG is proud of the economic contribution the Darlington refurbishment will make.

And we're committed to making it a success – by delivering it safely, on time and on budget.

Darlington New Nuclear Project

The other nuclear renewal initiative is the Darlington New Nuclear Project.

This involves the construction of two proposed new reactors at the Darlington site.

We have ample room on the site to accommodate the new units.

We also have extensive operating experience, a highly skilled workforce and detailed knowledge of the site.

Most important, we enjoy – as with refurbishment -- excellent community support.

As we move forward preparing for new build, we're focussing on the Federal approvals processes for the Environmental Assessment and licence application to prepare the site.

We've made good progress on this front.

I was especially pleased by the public hearings conducted last spring by the Joint Review Panel, which assessed the EA and licence application to prepare site.

The Panel received more than 120 written and oral submissions in support of the project – many of which came from the local community.

This includes many people here, whom we have worked with in partnership for many years.

Later in the year, when the JRP issued its report, it found that the project would not result in any significant adverse environmental effects – given mitigation measures.

I'm convinced the positive support received from the Durham community played a role in this outcome.

Thank you.

As a caveat...you may know, the provincial government – through Infrastructure Ontario – is responsible for selecting the construction vendor and reactor technology.

The government suspended this process in June 2009 due to concerns over costs -- after receiving bids from the prospective vendors.

We don't know when the selection process will be resumed, although the Ontario government continues to support new nuclear.

Notwithstanding the suspension, OPG is continuing with the federal approvals process.

We're doing this to ensure we don't lose any ground on our schedule in the event the vendor selection process resumes.

Darlington New Nuclear Project: Economic Impact

As with the Darlington refurbishment, the potential economic impact of the Darlington New Nuclear Project will be considerable.

The project will employ up to 3,500 people during the design and construction phase.

It will employ thousands more through indirect jobs.

And once in operation, a further 1,400 skilled workers will be employed at the new plant for the duration of its life.

This represents a considerable economic contribution.

Not to mention the long-term energy benefits.

Consider how well our existing Darlington station has performed.

And it was built in the 1980s.

Now think about a second Darlington.

A facility built in *this* century....

...benefitting from decades of new insights and learnings in areas such as project management, maintenance, safety, and operations....

A facility managed and operated by some of the most talented and best trained nuclear employees in the world – thanks to this region’s impressive educational infrastructure.

Imagine the contribution it could make to Ontario and to Durham right to the end of the century.

Pickering Continued Operation

The third piece in our nuclear revitalization program is our Pickering station.

We intend to keep Pickering operating until 2020.

During this period, we'll invest about \$200 million in the station, and we continue to drive for continuous improvement in its performance.

Pickering has a critical role to play.

It will provide the large amounts of low emission, baseload nuclear power that Ontario needs while Darlington is being refurbished.

It will also provide skilled and experienced workers for any new nuclear units we may build and operate.

And beyond our operations, we recognize there may be an entirely new value proposition for Pickering Nuclear that transcends the current operations.

We think this is possible for some of the same reasons we think a successful refurbishment is possible:

- a supportive host community that's a valued partner with the industry;
- the manner in which the facilities have been maintained;
- a highly-skilled and trained electricity sector workforce; and
- the strong partnerships OPG has cultivated with its academic and energy industry partners.

The kinds of activities we see as potential candidates for the site include energy-related services, research, training or other commercial activities.

Pickering Nuclear could continue to contribute to the economic vitality of Pickering, Durham and to the Province for decades more.

For those of you here today with businesses in the energy industry, I encourage you to think about these opportunities and to come and share your ideas. This is a dialogue we welcome.

Certainly, we have heard Mayor Dave Ryan talk about *his* ideas for Pickering as a centre of excellence -- as perhaps you have as well.

We think Pickering, is well-poised for this opportunity – especially given the cluster of infrastructure and talent, and the informed, supportive community that’s here in this region.

In the meantime, we continue to focus on performance at Pickering that’s built on our cornerstones of safety, reliability, human performance and value for money.

The Pickering station has made a huge contribution to this Province since its first units came into service in the early 1970s.

I am happy to say that as its operational life winds down, that contribution will continue to be significant.

OPG and Durham

As I’ve made clear already, none of our nuclear projects would be possible without community support.

That includes the support and partnership of so many of the people in this room.

OPG is proud to be a member of the Durham community.

We – all of us -- have something unique and very special here:

- a strong, established energy infrastructure....

- an equally strong transportation sector...
- excellent educational institutions...and
- an engaged and committed community.

That's a great combination no matter how you slice it.

These strengths make this region one of the leading technology clusters in North America.

At OPG, we're committed to doing our part to keeping Durham in a leadership position.

Not just as a great energy and technology centre... but as a great place to live.

Whether it's through:

- The business and spin-off opportunities created by our nuclear plants...
- Our participation with our other local partners in supporting electric vehicle research...
- Our support for, and partnerships with, educational institutions like UOIT and Durham College...
- The funding we provide to the more than 300 local, not-for-profit initiatives we helped in 2011...or
- the incredible amount of local volunteer work done by so many of our nuclear employees who live in the region

These examples – and many others I could have mentioned – deliver a loud message.

“OPG is here to stay.”

We value Durham. We value your partnership.

And we look forward to working with the DSEA and other community leaders in building a Durham that everyone in Canada will recognize, respect and be proud of.

Thank you.