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## **Nuclear in Ontario: Operating Today -- Planning for Tomorrow**

It's a pleasure to be here to talk about OPG's nuclear operations.

I want to focus today on two aspects of OPG's nuclear business. One is the operational side – how we operate our plants and how they're performing. The other is the strategic side – the steps we're taking in nuclear to plan for the future. I'll also be talking about why OPG is well suited for the role of being an effective nuclear operator.

As most of you know, OPG owns and operates three nuclear plants – Pickering A, Pickering B and Darlington.

Each of these stations is of a different age, size and vintage of CANDU. Yet each adds value to Ontario's electricity system and will continue to add value for many years to come.

Pickering A is our longest serving nuclear facility. It entered service in the early 1970s. In 2003 and 2005, we restarted two of the station's units -- with new parts on the most significant safety and production systems. The two units have performed well for much of 2008.

We're also placing two Pickering A units in safe storage. We're doing this because we determined that investing in them would not give a good return to electricity ratepayers. Making good business decisions for the people of Ontario, even difficult ones, is part of our commitment to being a cost effective and efficient nuclear operator.

Pickering B entered service between 1983 and 1986. Its four reactors continue to contribute significant power to Ontario's grid.

Despite their age, Pickering A and B's reactors contribute about 13 per cent of the Province's energy requirement. In their lifetimes, the two stations have generated over 640 TWh of electricity for Ontario -- enough to power the Province for more than four years. They will continue to meet Ontario's needs for years to come.

Darlington is our newest and best performing plant. It came into service from 1990 to 1993 and has an exemplary safety record -- backed up by strong performance, which I'll talk more about in a moment.

All tolled, OPG operates 10 reactors – excluding the two that we're putting in safe storage.

In terms of production, our 10 reactors produced 29 per cent of the electricity consumed in Ontario in 2007. So far this year, they have collectively produced more electricity in the first nine months of 2008 than they did for the same period in 2007. Darlington is producing more. Pickering A is producing significantly more. And Pickering B is producing under its 2007 level.

This higher total production level reflects our strong commitment to safety, performance, effective maintenance and a focus on improved plant condition.

### **Planning for the Future: Nuclear Refurbishment and New Build**

However, we don't just operate for the present. We also plan for the future.

Going forward, OPG will be expanding and revitalizing its nuclear operations.

We're doing this in two ways. We're exploring the possibility of refurbishing our existing plants. And we're engaged in a process to build new nuclear reactors.

#### ***Refurbishment***

On the refurbishment front, we're looking at refurbishing both Pickering B and Darlington before they reach the end of their operating lives.

With respect to Pickering B, we have undertaken a feasibility study to examine the refurbishment option. This process includes a plant condition assessment, an Integrated Safety Review and an Environmental Assessment (EA). Using the feasibility study as a basis, OPG management will recommend to our Board whether or not to refurbish.

Darlington is also approaching its mid-life refurbishment. Planning work began earlier this year. As with Pickering, it involves a plant condition assessment and an Integrated Safety Review. Work on establishing the project's scope is also underway and a reference schedule has been established. We expect the safety review to be completed by 2011.

Any decision to proceed with either of these refurbishments must be based on a solid business case.

#### ***Nuclear New Build***

In addition to refurbishment, we are undertaking new build initiatives in nuclear. This past June, we were chosen by the Ontario Government to be the operator for two new nuclear units at our Darlington site. Naturally, we were pleased that the Government selected us. But it was by no means a slam dunk. We had to prove that we were safe and effective nuclear operators. The performance of our nuclear stations helped demonstrate that. We also received strong support from the community.

The Ontario Government will decide on a vendor to build these reactors in the spring of 2009. The timing of this decision, however, may be somewhat flexible to ensure the best deal for Ontario ratepayers.

We expect the new reactors to be operating in about a decade. OPG does not support one vendor over another. We're confident the selection process will result in a vendor that will best service Ontario's needs.

### **Why OPG Nuclear Makes Sense for Ontario**

I've been in the nuclear business for over 30 years. I can personally testify that OPG is well equipped to be an excellent provider of nuclear power to the Province. I say this for a number of reasons.

**Safety:** First and foremost, we are safe operators of nuclear power. Based on our many years of experience, we understand the technology...and respect it.

OPG has a solid track record in nuclear safety. There is nothing – nothing – more important to us than the safety of the public we serve and the employees who work for us.

Many of our 7,500 nuclear employees live near our plants. They know how safe they are.

Our safety focus is backed up by performance and third party recognition.

- In 2008, Darlington employees worked 5 million hours without a lost time injury.
- Pickering A employees have worked almost 1.7 million hours without a lost time injury.
- Pickering B employees have worked nearly 2.3 million hours without a lost-time injury.
- All three of our nuclear stations operate under five year licences granted by the Canadian Nuclear Safety Commission. These are the longest duration licences allowed by our regulator.

These achievements are a reflection of our strong safety culture in nuclear. Safety is in our DNA. It's a fundamental value. This is the way it should be for a nuclear operator.

**Performance:** Our commitment to safety extends to our strong performance focus. I'm proud of the performance of our nuclear plants. It sends a strong signal to the public that we know what we're doing and can be trusted.

Our Darlington station is operating at well above 90 per cent unit capability and received a major international performance improvement award last year from the Institute of Nuclear Power Operations. Three of its four reactors are operating with unit capability factors in the high 90 per cent range. One of these reactors – Unit 3 – set a “personal best” performance record in October by operating continuously for 493 days.

Our Pickering A station is also performing well. Pickering Unit 4 had a 247-day continuous production run before experiencing a couple of brief maintenance outages. With a capability factor of about 90 per cent, Unit 4 is beginning to deliver significant pay-back on OPG's refurbishment investment

Pickering Unit 1 has also performed respectably. During the higher demand summer months and into October, it operated continuously for 113 days. Over the next few years, we believe this unit will follow in the footsteps of Unit 4 and start delivering solid performance as a result of refurbishment.

Targeted maintenance programs, equipment upgrades and plant condition improvements are helping to keep these and our other nuclear units performing at effective levels.

Turning to Pickering B, we have two units there which are performing very strongly. Units 5 and 6 both have unit capability factors well into the 90 per cent range. Given the station's 30-plus years of service, this is impressive performance.

Another unit at the station has undergone an extended outage since April to replace a calandria tube. While this has negatively impacted production, Pickering B's performance in several other areas -- such as safety -- has been solid.

The station recently had a successful peer review from the World Association of Nuclear Operators and performed strongly on its 2007 Canadian Nuclear Safety Commission annual safety report.

I was Vice President at Pickering B for several years, and I can confirm that this plant has a strong safety and performance culture that delivers real benefits to Ontario.

**Efficiency/Cost Effectiveness:** Another aspect of strong nuclear performance is efficiency. OPG works hard at being an efficient and cost effective nuclear operator.

One way we're doing this is by improving how we perform our work procedures and maintenance programs. Maintenance outages are a fact of life for large industrial plants – including nuclear stations.

These outages involve tens of thousands of separate tasks. They require shutting down an entire nuclear reactor for weeks. Each day off-line represents lost revenue for OPG. It means lost affordable power for Ontario. So time is of the essence.

At Darlington, OPG is leading the industry with innovative approaches to maintenance outages that reduce the amount of time offline to achieve quality maintenance outcomes. As a result, Darlington's past two major planned outages were both completed ahead of schedule and on budget.

This translates into savings that can be reinvested into our operations. It also means longer operating times for Darlington's reactors, which helps lower the cost of electricity.

Darlington's production unit energy cost (PUEC) is currently [among] the best of any nuclear plant in Canada.

Meanwhile, others in the nuclear industry are benchmarking at Darlington to improve their own efficiency and performance.

The kind of success I've just described is called "value for money" at OPG. Like safety, it's a cornerstone of our nuclear business. It is also essential in building the trust that allows us to operate existing and future nuclear plants.

We have been working systematically to entrench a "value for money" ethic into behaviours and practices across the organization and will continue to do so.

**Openness, Transparency and Community Commitment:** Finally as a nuclear operator, OPG puts a premium on being open, honest, accountable and engaged with all our stakeholders.

This includes the public, our Shareholder and our site communities.

All our nuclear plants are closely inter-connected with the communities where we operate.

We communicate with them on a regular basis -- through open houses, neighbourhood walks, public meetings, newsletters and the media.

For more than 10 years, our Pickering staff have gone before the Pickering Community Advisory Council every month to inform residents about our operations and address any concerns or questions they may have.

We also try to make a difference in the communities where we operate. It's not enough just to locate in a region. We're active members – committed to improving the community's quality of life and that of its residents.

Our employees volunteer their time and talent to numerous community events and causes – from tree-planting to youth sports to local fund-raising.

On a corporate basis, we help support more than 300 charitable and non-profit initiatives in the communities around our nuclear stations.

It's this kind of commitment – to openness, to accountability, to society -- that earns for us the right not only to be a nuclear operator but to be an effective and responsible nuclear operator – now and going forward. This is an integral part OPG's approach to its nuclear operations.

Finally and importantly, we have without a doubt among the best employees in the business. They're professional. They're committed. They're good at what they do. They are totally focused on safety. And they are great corporate citizens. OPG is fortunate – and Ontario is fortunate – to have such a highly skilled and dedicated workforce operating our public nuclear assets.

## **Conclusion**

I'll conclude by summarizing OPG's approach to nuclear operations in a few words.

Safety. Performance. Openness. People and Community.

We are a first and foremost a safe company. Safety will always be our defining value. It is the ultimate yardstick against which we measure our success as a nuclear company.

We are a company committed to performance. That includes reliable and predictable production from our nuclear stations; efficient operations and processes; and a disciplined approach to managing costs.

We believe in openness and transparency.

We believe in our employees and their commitment to performance and achievement.

We believe in the communities where we operate and to contributing to their continued growth and success.

We are proud that our commitment to these values has earned for us the trust and respect of our many stakeholders – and with it the right to play a key role in Ontario's nuclear energy agenda.

That role is not freely given. It does not happen by chance. It has to be earned.

OPG is committed to earning -- every day -- the right to be Ontario's trusted nuclear operator.

Thank you.