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# Energy in the Aftermath of the 2003 Electricity Blackout - Canadian Speaker

Garry McKeever

# CANADIAN SPEAKER

*Dr. Garry McKeever*[†]

Thank you very much, Jim. I have been chosen to kick off this discussion. Let me begin by saying that I am honored to speak to such a distinguished gathering from the legal profession. I don't often get to speak to an audience of high-powered lawyers such as is here today. I also want to thank Professor King for doing me the honor of inviting me to speak here.

As Jim said in his introduction, I am a civil servant. My minister, Dwight Duncan, is from Windsor,[1] so he is close to the U.S. Many of the people here from Toronto will meet Mr. Duncan, or have met him, or do meet him in the course of their business, day-to-day, week-to-week, and I just want them and the rest of you to know that as a civil servant, it is important for me to underline that if in the course of my presentation you detect any political leanings or political bias, that these are entirely a figment of your imagination. As a civil servant, I have no political feelings or leanings whatsoever. I merely make – make objective judgments and give objective advice. David will –

MR. MANNING: He does speak Irish.

(Laughter.)

DR. McKEEVER: David will appreciate that.

"The Blackout of 2003" is in the title of the speech, and I will certainly talk about it, but I am not going to get into details of transmission regulation and the various ongoing work that is in progress at the moment in cross-border, or committees, or groups, to improve the reliability of the transmission system.

That is a crucial issue. We are guilty of a little smugness about it in Ontario. We have very little reason to be smug in Ontario about energy matters,

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[1] Dwight Duncan, Member of Provincial Parliament, http://dwightduncan.on.ca (last visited Nov. 1, 2005).

but on the day of the blackout, I was sitting in my office, and the political environment and energy environment at the time were that the government was in deep trouble politically, largely as a result of energy problems, and when the lights went out, everybody on the floor said, "Uh-oh." Our automatic assumption was that it was Ontario's fault; that one of our nuclear stations had gone down, or we had yet another problem, one of many problems that we had been having.

And it was with great relief, and again a return of a little Canadian smugness, that we were finally able to point to Ohio and say it was really Ohio's fault, and I think that's continuing the thread of yesterday's discussion where you guys had gotten beat up on the softwood lumber issue. But I'm not going to belabor that point today. I don't want you to feel that Canadians whine all the time. I am going to bare our souls and tell you about the challenges that we face in Ontario on the generation side – because the threats to Ontario's reliability come from the generation side of the business, not, in our view, from the transmission side.

Our transmission network is owned by Hydro One, which is 100% owned by the province, and it is regulated, highly regulated. We have obligatory – we have reliability standards, which Hydro One has to observe.[2] We are reasonably comfortable with the transmission network, but we spend a lot of time and generate a lot of stomach acid on the topic of generation.

Just to cover quickly what is happening on the blackout, Ontario is participating in a bilateral Canada-U.S. group, which is working on the formation of an all-electricity-reliability organization, which would basically standardize reliability standards across –within the United States, where there is no universal standard at this point in time with the different structure of the U.S. electricity industry.[3] There are a number of workshops. A workshop took place in December on this reliability organization, and a second one is planned for this month in Washington.[4] There is ongoing activity in that. In Canada, there is a federal-provincial-territorial working group addressing reliability issues, which is being chaired by the Ontario and federal governments.[5] So the point I want to make to you there is the transmission issues

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[2] Hydro One, *Hydro One Responds to Blackout Report* (Nov. 19, 2003), *available at* http://www.hydroone.com/en/media_centre/news_release/archives/2003/2003_11_19.asp.

[3] *Terms of Reference for Bilateral Electric Reliability Oversight Group*, http://www.ferc.gov/industries/electric/indus-act/reliability/06-30-05-agreement.pdf (last visited Nov. 1, 2005).

[4] Natural Resources Canada, Electricity Resources Branch, *Notice of Workshop: Draft Principles for an Electric Reliability Organization that can Function on an International Basis*, http://www2.nrcan.gc.ca/es/erb/erb/english/View.asp?x=654&oid=1045 (last updated May 27, 2005).

[5] Interstate Renewable Energy Council, *U.S., Canada Collaborate to Improve Grid Reliability* (Jul. 2005), *available at*

are not being ignored in Canada and Ontario; it is simply that our generation challenges in Ontario are much more significant, and they are much more interesting, I think, for a group of this nature.

So the word "reliability" in an electricity system doesn't just mean – as I stress – a good transmission system. A reliable and well-maintained transmission system is crucial, but you also have to have the stuff being produced in a reliable fashion, a timely fashion, and in a balanced fashion. An electricity system must always remain balanced. Supply and demand must always be equal. Otherwise, the thing breaks down.

Our Minister likes to say that his three top issues as Minister of Energy are supply, supply, and supply. And from a United States' point of view, and from the point of view, in particular, of neighboring jurisdictions with which we are linked through cross-border or inter-ties, we were all reminded by the blackout of the nature and the closeness of the linkages. It is important from a U.S. point of view that Ontario maintain its system well, and that there will always be adequate generation, reserves of generation, and reliable generation, available in Ontario, because when we break down, it causes problems for you.

It is important before we – before I – talk about the current generation challenge in Ontario, to cover a little bit of the history. The Ontario system was hydroelectric initially. It has a foundation in the early part of the twentieth century until the 1950s. Older Ontarians still refer to it as "The Hydro."[6] Based on the letters we get in the Ministry, there is a significant percentage of the population that is unaware that some of their electricity does not, in fact, come from hydraulic sources. Hydroelectricity now only supplies about 25% of our power.[7]

In the 1950s and 1960s, by that time, we had run out of hydro sites. All the large hydro sites in Ontario that were economically attractive to exploit, had already been exploited.[8] Our two biggest are on the Niagara and St. Lawrence Rivers.[9] There are quite a few smaller ones, but at that point, it was judged that coal-fired generation offered a more economically attractive way

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http://irecusa.org/articles/static/1/1120840711_987096476.html.

[6] *See* Natural Resources Canada, *Brief History of Hydroelectric Energy in Canada*, http://www.canren.gc.ca/tech_appl/index.asp?CaID=4&PgID=31 (last visited Nov. 17, 2005).

[7] Colin L. Clark, *Ontario: Preparing for a Competitive Market*, HYDRO REVIEW 14, 14 (Dec. 1999).

[8] MSN Encarta, *Ontario (Province, Canada)*, *available at* http://encarta.msn.com/text_761577989__1/Ontario_(province_Canada).html (last visited Nov. 1, 2005).

[9] *See* Ontario Power Generation Inc., *Annual Information Form*, 1, 14 (2003), www.opg.com/ir/reports/AIF_2003.pdf

of expanding the system. The Ontario economy was growing very rapidly in the 1950s and 1960s.[10]

Then by the 1970s, nuclear technology had become available, and Ontario made the decision to go nuclear. And during the '70s, '80s, and early '90s, our current nuclear fleet came on stream, and that nuclear fleet now supplies over 40% of our power, and it is the adventures and misadventures of that nuclear fleet that lie at the core of many of our current challenges.[11]

The last nuclear station in Ontario was completed in 1992, and, at that point, we had a significant surplus of capacity.[12] Our reserves – reserve over peak demand in an electricity system, as many of you know I'm sure, you monitor peak demand, and you build in a reserve over that demand so that you are capable of meeting demand in the event that some of your stations are taken offline for maintenance or break down. Nuclear generators, being the creation of human beings, are themselves imperfect, just like the creatures that build them, and they do from time-to-time break down and also require regular maintenance. So you keep a reserve. The rule of thumb in an all-electricity system is that you have a reserve of about 18%.[13] It varies slightly depending on what kind of generation capacity you have, but the rule of thumb is something less than 20%. By the time our last nuclear station came on stream in 1992, we had a reserve of 36%, 11,000 megawatts.

As a result, a psychology developed in Ontario that we didn't have to worry about generation. And those of you who were in Ontario and involved in the energy business in the 1980s, will remember that the CANDU (Canada Deuterium Uranium Reactor) technology was touted as a great Canadian success story. It was leading the world. Our nuclear generating stations had operating rates that were among the highest, and so on and so forth, and everybody was very proud of this Canadian creation. However, as the stations grew older – the first ones, as I said, were finished around 1970. The Pickering "A" station was finished in 1971.[14] It was 1960s technology. As it reached ten years, eleven years, and twelve years of age, it started showing

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[10] MSN Encarta, *Ontario (Province, Canada)*, *available at* http://encarta.msn.com/encyclopedia_761577989_11/Ontario_(province_Canada).html (last visited Nov. 9, 2005).

[11] *See* Report of the Pickering "A" Review Panel, Dec. 4, 2003, http://www.cna.ca/english/Studies/Pickering_Review_%2004/pickering_report_dec2003_en.pdf (last visited Nov. 9, 2005) [hereinafter Report of the Pickering "A" Review Panel].

[12] Karen Howlett, *Ontario to Dust Off 2 Reactors, NDP Says*, THE GLOBE AND MAIL, Oct. 15, 2005, http://www.workopolis.com/servlet/Content/fasttrack/20051014/NUCLEAR14?section=Energy.

[13] THE NEW YORK INDEPENDENT SYSTEM OPERATOR POWER ALERT: NEW YORK'S ENERGY CROSSROADS, 7, (Mar. 2001).

[14] CANDU Owners Group Inc., *CANDU Reactors*, http://www.candu.org/candu_reactors.html (last visited Nov. 9, 2005).

signs of wear and tear. And in the '90s, through the '90s, the performance of our nuclear stations began to slow, to deteriorate somewhat.[15]

As a result of the deterioration in the performance of its reactors, Ontario Hydro in January 1997, commissioned an Integrated Independent Performance Assessment of its nuclear plants. To make a long story short, that study said that the management of these stations had been poor, and that they had been not properly maintained, and as a result, seven units were taken out of service. It was expected at the time that they would begin returning by about 2000, that they would return at six-month intervals.[16] Unfortunately, the first one didn't return until 2003.[17] So that short, compressed story is the beginning of our generation crisis, generation difficulties that reached a peak in 2002.

But before then, there was a change in government in Ontario. In 1995, we elected a conservative government.[18] The conservatives had been out of power for ten years,[19] and this conservative government was, by Canadian standards, quite right wing. They were neoconservatives, spiritual soul mates of Ronald Regan and the neoconservative movement in the United States, admirers of Margaret Thatcher, and so on.[20] They came to office with a very clear agenda and a very clear idea of what they wanted. And they decided after a brief period that Ontario Hydro, the provincial utility, was not working. They commissioned a number of studies, most notably one chaired by Donald MacDonald, a very prominent Toronto lawyer, a former Federal Finance Minister.[21] And they produced a white paper, which led to the Electricity Act of 1998, which set out the framework within which they were going to open the electricity market to competition.[22] There were a number of delays in opening the market because local utilities, local companies had trouble getting their billing systems ready and so forth. But the market eventually opened in 2002, and, on May 1, 2002, we opened both the retail and whole-

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[15] Thomas Adams, *Hardening of Nuclear Arteries*, THE GLOBE AND MAIL, Nov. 13, 1990.

[16] Report of the Pickering "A" Review Panel, *supra* note 11.

[17] *Id.* at 7.

[18] *See* Elections Ontario, *36th General Election – Summary of Valid Ballots Cast, available at* http://www.electionsontario.on.ca/results/1995_results/sum_vb/default.jsp?flag=E&layout=G (last visited Nov. 9, 2005).

[19] *Id.*

[20] *See* Wikipedia, *Politics of Ontario*, *available at http://en.wikipedia.org/wiki/Politics_of_Ontario* (last visited Nov. 9, 2005) (review of recent Ontario political developments).

[21] Queen's Printer for Ontario, A Framework for Competition: The Report of the Advisory Committee on Competition in Ontario's Electricity System to the Ontario Minister of Environment and Energy, (MacDonald Commission Report), May 1996.

[22] Electricity Act, 1998, S.O., Part III (1998).

sale markets simultaneously.[23] Residential customers were exposed fully to the vagaries of the wholesale market price. For the first two months, it looked great. The prices were actually lower on the wholesale market than they had been prior to the market opening.[24]

But then, if you remember the year 2002, it was an exceptionally hot summer. July and August were extremely hot, and the hot weather extended into September. We had ten days in September in Toronto where the temperature was over thirty degrees Celsius. Normally, we don't have any days like that in September, and when people in Ontario received their electricity – there was a one-month, two-month lag – when the bills started to land on the doorstep in August and September, there was a violent political reaction.

It just so happened that the previous April – in April 2002, right just before the market opened, there had been a change in leadership of the conservative party. Premier Harris, who was the spiritual leader of the neoconservative movement and very much a symbol of the party's robust policies, resigned, and Premier Eves took over.[25] If you say that in politics, timing is everything, Premier Eves' sense of timing was about as bad as it could be because in that summer, he ran into the electricity crisis provoked by the exceptionally hot weather, and then the following year he had to contend with the blackout, mad cow disease, and SARS (Severe Acute Respiratory Syndrome).[26] So it was a tough time – first year of Premier Eves – first year and a half of Premier Eves' brief tenure was extremely difficult. But his introduction to electricity was particularly painful.

As I say, the political reaction was violent, and the government caucus got the message loud and clear from their voters that the kind of price increases they were seeing – and I should say the average price of our electricity per kilowatt hour was actually below four cents in the first two months of the open market, but then rose to over six cents per kilowatt hour in July and August and to over eight cents in September was up close to seven cents.[27] Because of the hot weather, people were not only seeing a price increase, they were seeing big volume increases in their consumption as their air con-

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[23] Electricity Act, 1998, S.O. (1998).

[24] *See* Independent Electricity Systems Operator, *available at* www.ieso.ca/imoweb/marketdata/marketSummary.asp

[25] Wikipedia, *Progressive Conservative Party of Ontario*, *available at* http://www.wikipedia.org/wiki/Ontario_Progressive_Conservative_Party#Ernie_Eves:_Distancing_the_party_from_the_.22Common_Sense_Revolution.22 (last visited Nov. 9, 2005).

[26] *See* Statistics Canada, *Gross Domestic Product by Industry*, *available at* http://www.statcan.ca/english/freepub/13-010-XIE/2003004/gdp2003004.htm (last visited Nov. 9, 2005).

[27] *See* Independent Electricity Systems Operator website, *available at* www.ieso.com/imoweb/marketdata/market summary/asp (last visited Nov. 9, 2005).

ditioning was cranked up. So in November, the government decided to reverse course. It froze the price to residential and small-volume consumers at 4.3 cents, which is where it had been before the market opened. Not only that, but it refunded every penny that people had paid over 4.3 cents since the market opened.[28]

The impact of the hot weather was exacerbated by the fact that, as I say, the generation situation had deteriorated. The delays in bringing back the nuclear stations and the failure of a number of expected new investments in generation to materialize, caused capacity to be lower than it had been expected, and suddenly Ontario was in a situation where we had a serious capacity challenge.[29]

As we moved into the winter of 2002-2003, the political heat died down because customers were protected through the fixed price, but then we moved into 2003, and with the continued failure of the nuclear stations to return, the government appointed a panel to investigate it, chaired by Jake Epp, a former Federal Minister, and that commission continued its investigations.[30] The station finally opened in late 2003,[31] but then in the summer after the blackout, the government successfully defended itself on the election that was called, and a new liberal government was elected.[32]

Now, the conservatives had appointed an Electricity Conservation and Supply Task Force in early 2003, to do a thorough investigation of Ontario's crisis and to come up with recommendations of how they could move forward. That Commission was still sitting when the election happened and when the new government came in.[33] The new government kept that Commission in power. It allowed it to continue and finish its work. It changed the chair, but essentially, it was the same group of people, and that group came up with its final report in the first months of the new government.[34] And it is

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[28] Government of Ontario, *Legislated Price Freeze on Electricity*, http://www.oeb.gov.on.ca/html/en/consumerinformation/electricityfreeze.htm (last updated May 7, 2002).

[29] J.M. Hopwood, A. Alizadeh, K.R. Hedges, P. Tighe, *The Nuclear Option in Canada: Why it is Gaining Ground*, World Nuclear Association Annual Symposium 2004, http://www.world-nuclear.org/sym/2004/hopwood.htm (last visited Nov. 9, 2005).

[30] Report of the Pickering "A" Review Panel, *supra* note 11.

[31] *Id.* at 1.

[32] Elections Ontario, *By-election 2004, available at* http://www.electionsontario.on.ca/results/2004ByElections/index_HE.jsp?flag=E&layout=G.

[33] Ministry of Energy, Electricity Conservation and Supply Task Force Report, http://www.energy.gov.on.ca/index.cfm?fuseaction=electricity.taskforce (last visited Nov. 11, 2005).

[34] Conservation and Supply Task Force , Tough Choices, Addressing Ontario's Power Needs: Final Report of the Electricity Conservation and Supply Task Force, Jan. 2004, www.energy.gov.on.ca/english/pdf/electricity/TaskForceReport.pdf (last visited Nov. 11, 2005) [hereinafter Addressing Ontario's Power Needs].

on that report that the current government's policy, the liberal government led by Premier McGuinty – it is on the basis of that report that the Liberal Government has come up with their current proposals for reform of the system. They have developed what is described as a "hybrid model."[35]

It reminds me of the story of a famous radio show a number of years ago in Canada, a national radio show. The host organized a competition in which listeners were asked to come up with a slogan that embodied the essence of Canadianness, you know, "As efficient as a German," "As romantic as an Italian," "As passionate as a Spaniard," "As blank, blank, blank as a Canadian." The winning entry was from Saskatchewan, and it was, "As Canadian as possible under the circumstances."[36]

(Laughter.)

And I think that's a reasonable description of what this policy is. It combines both elements of the market and regulation, and it draws, as I say, on the Electricity Conservation and Supply Task Force. The Task Force identified a looming shortfall of generation capacity. Our nuclear stations are aging, and all of them will reach the end of their lives by 2020, beginning around 2012.[37]

The government has also promised, as part of its election platform, to eliminate coal in the generation of electricity.[38] That's 7500 megawatts in addition to the 10,000 megawatts of nuclear power, and we also have a growing system, a growing population. We will need another 6500 megawatts by 2020. So we are looking at about 25,000 megawatts of new or replaced capacity needed in Ontario by 2020, and that's in a system of 30,000 megawatts.[39]

The report's authors concluded that the market approach of the 1990s, of the previous government, needed substantial enhancement to meet the challenge,[40] and I think that was something of an understatement. They proposed

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[35] *New Vision for Electricity Sector Will Mean New Supply, Increased Conservation, Stable Prices "Balanced Approach" Includes New Ontario Power Authority to Ensure Supply and New Rate Plan to Serve Consumers*, CANADA NEWSWIRE ENGLISH, Apr. 15, 2004, *available at* http://www.newswire.ca/en/releases/archive/April2004/15/c1514.html; *see also generally* Press Release, Ministry of Energy, Government of Ontario, Electricity Conservation and Supply Task Force Report Confirms Need for New Direction in Ontario's Electricity Sector (Jan. 14, 2004), http://ogov.newswire.ca/ontario/GPOE/2004/01/14/c9897.html?lmatch=&lang=e.html.

[36] Jonah Goldberg, *Bomb Canada: The Case for War*, NATIONAL REVIEW, Vol. LIV, No. 22, Nov. 25, 2002.

[37] Addressing Ontario's Power Needs, *supra* note 34.

[38] Mondo Politico, Canada Federal Election 2004: Voter Guide, http://www.mondopolitico.com/elections/canada2004 (last visited Nov. 11, 2005).

[39] Independent Electricity System Operator, Supply Overview, *available at* http://www.ieso.ca/imoweb/media/md_supply.asp (last visited Nov. 11, 2005).

[40] Addressing Ontario's Power Needs, *supra* note 34, at 1.

an action plan that included stable, regulated prices, which would reflect the true cost of power for all consumers.[41] The government has done that with its recent announcement that it is regulating part of the output of Ontario power generation. They are going to regulate the price of our hydro and nuclear units. They recommended peak and off-peak prices for customers to encourage conservation and peak shaving.[42] They recommended the market should move to increasingly being based on longer-term contracts and the development of load-serving entities, which are large customers that buy power to counterbalance the large entities that sell it, and they recommended the continuation of the spot market as a balancing tool.[43]

So I'm getting signals here that I should wrap up, so I will conclude by saying that our system now in Ontario is a hybrid system. It is not fully regulated. It is not fully market. It is partially regulated on the price side, but at the same time, we still have a functioning wholesale market, which is not one that would cause market enthusiasts to leap with joy because it is heavily dominated by one large seller, Ontario Power Generation, which has about 70% of the power.[44] And it has very little muscle on the buying side because of the nature of our – of the market structure. So it is an evolving system. We have created an Ontario Power Authority, which is responsible for ensuring we have sufficient capacity. It will issue requests for proposals. It will basically put the government's purchasing power behind the generation contracts so that generators can get financing.[45]

We've already issued a number of RFPs, which will be taken over by the Ontario Power Authority. The contracts will be taken over by them. So we also have government involvement not only in the price regulation side, we have significant government involvement on the purchase of generation. We are not leaving that to the market as the previous government did. We are inserting a government agency into that process in the hope that as the system stabilizes, the private sector will ultimately eventually wish to generate

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[41] *Id.* at 86; *See also* Ministry of Energy, Ontario Government Introduces Fair And Stable Prices For Electricity From Ontario Power Generation, www.energy.gov.on.ca/index.cfm?fuseaction=english.news&body=yes&news_id=90 (Feb. 23, 2005).

[42] *Id.*

[43] *Id., at Section 5, p.21.*

[44] Energy Probe, Utility Reform, Regulation & Consumer Protection - Reforming Ontario's Electrical Generation Sector, http://www.energyprobe.org/energyprobe/index.cfm?DSP=content&ContentID=9576 (last visited Nov. 11, 2005).

[45] Minster of Energy, Minster's Speeches: The Ontario Power Authority - What It Is and Where It Is Going, http://www.energy.gov.on.ca/index.cfm?fuseaction=media.speeches&speech=26012005 (last visited Nov. 11, 2005).

without the safety net of government contracts.[46] But that's quite a bit down the road.

So I will leave it there to give you something to chew on, and I look forward to your questions.

Thank you very much.

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[46] *Id.*