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December 23, 2002

As part of its action plan to lower hydro bills, the government undertook to talk to large commercial and industrial electricity users and stakeholders about enhancing competition and increasing supply in the electricity market.

The purpose of the attached paper is to provide the background for those consultations, reaffirm the government's objective in restructuring Ontario's electricity system, and put forth some initial issues for discussion.

Reform of the electricity generation market, not short term price mitigation, remains the government's principal objective. The government is committed to the view that by enhancing competition and incenting the creation of new supply, Ontario consumers will benefit from lower prices than could have been achieved under the old monopoly regime.

During January, my colleagues and I will be meeting with industry stakeholders and associations to develop recommendations on this important issue. I would appreciate receiving your written input by January 23, 2003.

Submissions may be directed to:

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Thank you for your assistance and I look forward to hearing from you in the near future.

Sincerely,

John Baird  
Minister

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**Action Plan to Lower Hydro Bills:  
Enhancing Supply and Competition  
in the Ontario Electricity Marketplace**

**A Consultation Paper**

**December 23, 2002**

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## **Introduction**

As part of its plan to lower hydro bills, the government committed to consult with large commercial and industrial electricity users about enhancing competition and supply in the electricity market.

The purpose of this paper is to provide the background for those consultations, reaffirm the government's objective in restructuring Ontario's electricity system and put forth some issues for discussion.

The long-term stability of the electricity generation market - not short-term price mitigation - remains the government's main objective. Improving competition and encouraging new supply will bring significant benefits in the long term.

## **Ontario hydro generation and escalating debt**

Ontario established the Ontario Hydro Electric Power Commission in 1906 to provide electricity at cost. The monopoly worked well for many years, especially in extending service to all parts of the province in the first half of the last century.

Power was at first generated by local utilities and private enterprise as well as by Ontario Hydro, but Hydro came to dominate. It eventually accounted for 86 percent of electricity sold in Ontario by the time of restructuring and controlled a further 7 percent through contracts with non-utility generators (NUGs).

The greatest expansion of Ontario Hydro's own generation began in the early 1970s with the opening of the first nuclear plant at Pickering. While the new technology initially performed well, it was ultimately a major factor in Hydro's escalating debt. Darlington nuclear station, originally to have come into service in 1986-1988 at a cost of \$3.5 billion, finally came into service in 1990-1993 at over \$14 billion. Operating performance at the other stations was coincidentally beginning to decline. The contracts with the NUGs also contributed to the debt because their prices were well above Ontario Hydro's average costs.

By the time of restructuring in 1998, Hydro's total debt and other liabilities stood at \$38 billion. The debt curtailed Hydro's ability to invest in other generation assets and in the high-voltage transmission system. Reform was essential. The new priorities were to increase supply, lower costs, increase efficiency and improve customer service. Those goals could best be achieved through competition.

## **Restructuring to increase competition and supply**

Ontario was not alone in taking a new approach. Across North America and around the world, the electricity industry was moving toward a competitive, customer-responsive model, and away from monopolies that generated, transmitted, distributed and sold electricity.

With the *Energy Competition Act* of 1998, Ontario outlined plans for restructuring the industry and began the transition to competitive wholesale and retail electricity markets. Ontario Hydro was split into successor organizations, Ontario Power Generation (OPG) and Hydro-One (the transmission and distribution company).

On May 1, 2002, the generation of electricity was opened to competition. Under the new system, the wholesale price of electricity is determined by supply and demand in a competitive market. The spot price of electricity changes from hour to hour, day to night, and season to season in response to market conditions.

Decontrol of OPG assets also moved forward. OPG is required to divest capacity until it holds no more than 35 percent of total provincial supply by 2012. To date 3,000 MW at Bruce B nuclear station have been leased to a new consortium headed by Cameco, TransCanada Pipelines, the Ontario Municipal Employees Retirement Systems, the Power Workers= Union and The Society of Energy Professionals. In addition, two more nuclear units at Bruce A - amounting to 1,500 MW of decontrolled, low-cost capacity - should be coming back on stream in 2003. As well, almost 500 MW of peaking capacity on the Mississagi river system was decontrolled.

## **Summer demand**

Having dropped initially, in May 3.0¢ per kilowatt hour and June 3.7¢, the price of power in the new wholesale market began to rise, averaging 6.2¢ per kilowatt hour in July, 6.9¢ in August and 8.3¢ in September. The weighted average wholesale price of electricity in Ontario to the end of November was 5.1¢.

With air conditioning, peak demand in Ontario now occurs in summer. Demand usually begins to rise in the middle of June and remains high (22,000 + MW) until the end of August. But 2002 was an exception: it was the hottest summer in 50 years, with temperatures well above average in July, August and September. In Toronto, there were 34 days in June, July and August with daytime highs above 30 degrees Celsius; normally there are 14. There were 6 days in September with temperatures

at or above 30; normally there are none. Fortunately, Ontario was able to rely on imports of up to 4,000 MW during the July and August peaks. This weather resulted in exceptional demands for power. In July, the hot weather several times raised demand above 25,000 MW. An all-time record peak hourly demand of 25,496 MW was reached on August 13.

On the supply side, the critical factor has been delays in the return to service of the four reactors being refurbished at the Pickering A nuclear station, at least one of which was originally expected to have been in operation by the summer of 2002. Each of these reactors has a capacity of 500 MW and their return will have a significant impact on Ontario's supply of electricity.

In response to the high prices of July, August and September, the government announced, on November 11, 2002, that the price of electricity for residential, small business and farm consumers would be frozen at 4.3¢ a kilowatt hour until at least 2006. Refunds would be issued to cover the difference between 4.3¢ a kilowatt hour and what consumers had actually paid for electricity since May 1, 2002. The government also announced measures to increase the supply of energy and to promote conservation, green energy, and supply from alternative sources.

### **Supply in the short and long term**

As part of the long-term program to revitalize Ontario's nuclear assets, Ontario Hydro removed about 4,600 MW of nuclear capacity from service at Pickering (in 1997) and Bruce (in 1998). The return of Bruce A (two units) and Pickering A (4 units) will add 3,500 MW of low-cost capacity to Ontario's supply. An additional 1,000 MW of non-nuclear new capacity is under construction. This new capacity should have a significant dampening effect on prices in the next two to three years.

### **Market Power Mitigation**

Ontario Power Generation owns a substantial share of Ontario's generation capacity. The purpose of the Market Power Mitigation Agreement (MPMA) is to address the possible exercise of market power by OPG by providing price relief to Ontario electricity consumers.

To reduce the effect that such market power could have on prices, the MPMA requires OPG to decontrol 4,000 MW of price-setting capacity in the first 42 months after market opening. The agreement further requires OPG to pay a rebate to consumers if the weighted average annual market price exceeds 3.8¢ per kilowatt hour. The rebate depends on a number of factors, but a 4.8¢ annual price would result in a rebate of about 0.5¢; the

effective price to consumers would thus only be 4.3¢ per kilowatt hour. The rebate obligation is in place until the fourth anniversary of market opening at the end of April 2006.

### **Investing in new supply: a lasting solution**

A key goal when Ontario restructured the electricity system was to encourage new players to enter the generation market. That goal remains. Under the policies announced on November 11, the price of electricity in the wholesale spot market is not capped. The wholesale market for electricity in Ontario remains open for business. But more needs to be done to improve the market, increase supply and foster competition.

The wholesale market is designed to give price incentives to new supply to come on stream. Even though prices have been high, potential investors have been deterred by a number of other factors; for example, the expected return of the low cost nuclear base load plant at Pickering A and Bruce A and its implication of low future market prices for several years. Investors have also been deterred by the destruction of the balance sheets of many major North American and European power generators in the past 18 months. Many companies have had low earnings as a result of over-expansion and depressed demand in the United States. Accounting and regulatory scandals have also rocked investor confidence.

Consequently, the shares of stand-alone merchant energy companies are trading at all time lows, and these energy companies have limited access to new debt and equity capital. Under these circumstances, generators can only get financing for new generating capacity if they have sold a substantial portion of their output in advance.

## **The role of large commercial and industrial users**

The Market Power Mitigation Agreement provides significant relief from potential price increases until April 30, 2006. Prices for users will also be improved by the return to service of the laid-up nuclear units. The recent transfer of ownership of the Bruce lease to the new consortium greatly enhances the possibility for a timely return of the 1,500 MW at Bruce A. The return of Pickering A - 500 MW in June of 2003, and eventually a total of 2,000 MW - similarly will add significantly to supply. The main long-term issue is adequacy of supply and competition.

Because of their weight in the market, large commercial and industrial users can play a key role in addressing this issue, by helping to ensure that energy markets operate to call forth new supply and lower prices. On the one hand, large users can adjust demand in response to price incentives. On the other, they can help increase competition by stimulating investment in new capacity. They could do so by contracting for new supply from non-OPG generators or by building their own generation capacity, either alone or in a consortium with others.

## Issues for Discussion

- \$ What changes can be made to the Market Power Mitigation Agreement that will enhance its usefulness to large customers?
- \$ Do large electricity consumers have an incentive to conserve and rationally use electricity at critical times of the day, month and year?
- \$ On the demand side, are current pricing arrangements effective in linking consumption to the supply of electricity available at any given time?
- \$ Many large users of electricity have very complex contract arrangements. What choices would be effective for them in terms of fixed or variable prices for future electricity contracts?
- \$ How should the import offer guarantee/IMO uplift be dealt with, given that large users of electricity contribute greatly to the need for imports?
- \$ On the supply side, what steps should be taken to increase competition in the Ontario marketplace and to encourage new suppliers to enter Ontario's market?
- \$ What other steps should be taken to address the potential long-term supply of electrical generation?
- \$ Are the government's efforts to retain and strengthen the wholesale market the proper approach? What additional efforts should the government undertake to retain and strengthen the wholesale market?