

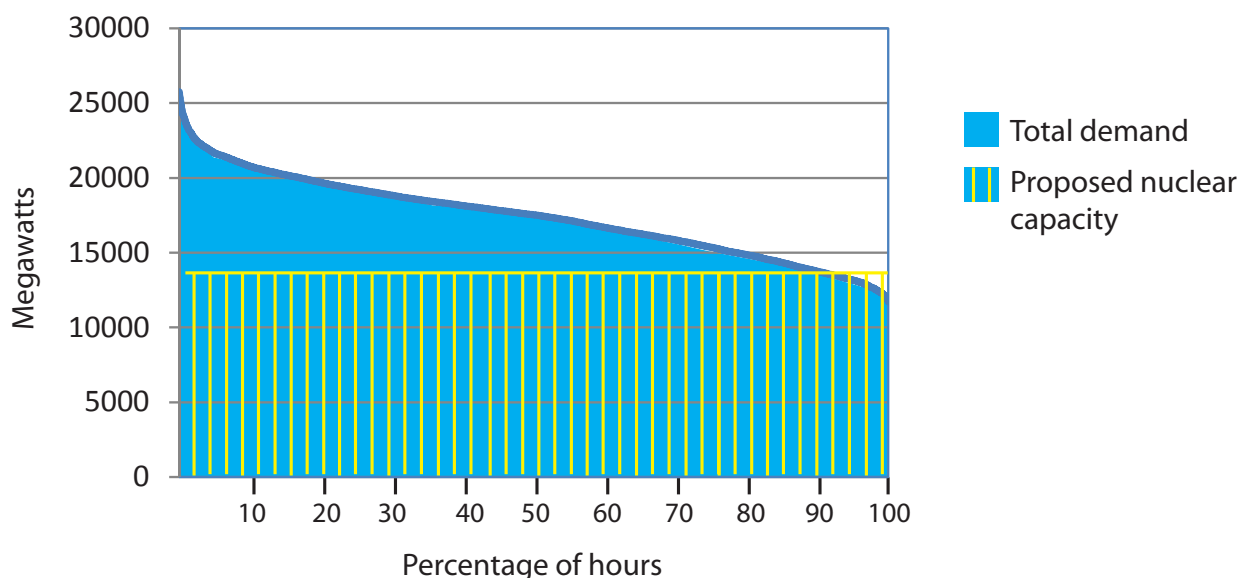
Ontario's impending nuclear monopoly

Should nuclear power meet up to 72% of Ontario's electricity demand?

On March 7, 2008 the Ontario Ministry of Energy outlined its procurement process to obtain up to 14,000 megawatts (MW) of nuclear power.

Figure 1 below shows Ontario's electricity load duration curve in 2007. The vertical axis measures the demand for electricity in MW; and the horizontal axis shows the hours of the year by percentage. The area beneath the curve represents the total demand for electricity in the province in 2007. When we look at the impact of reserving 14,000 MW of this demand for nuclear power, we see that the output of the nuclear reactors will be equivalent to 72% of our annual electricity demand.¹

Fig. 1 — Ontario load duration curve - 2007



If we accept the government's projections that electricity demand will grow by 7.5% by 2025 once the impacts of conservation efforts are factored in, we can calculate that nuclear will continue to monopolize 68% of the electricity market. Alternatively, if we assume that rather than the high growth rates projected by the government, electricity demand continues to fall as it did between 2005 and 2007 (when demand fell by 3.2%), nuclear's share of the market will actually increase beyond 72%.²

According to Ontario's Energy Minister, the objective of this procurement process is to get the best possible deal for Ontario's electricity consumers:

"Our priority is a fair, transparent, competitive process that will assure Ontarians we will get the best deal on clean, affordable and reliable electricity to light their homes and power the economy for decades to come."³

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A procurement process that gives nuclear companies a monopoly to supply up to 72% of Ontario's electricity market is neither fair nor competitive. Furthermore, it is extremely unlikely that it will lead to the best possible deal for Ontario's consumers.

To ensure that Ontario's consumers will obtain clean and reliable electricity supplies at the lowest possible price, the Government of Ontario should make the following amendments to its procurement process:

- All clean electricity suppliers should be allowed to compete. Specifically, in addition, to the nuclear companies invited to bid on the base-load supply, the Government of Ontario should accept bids from renewable (water, wind, solar and biomass) and natural gas-fired power companies. In this context, it is important to remember that natural gas-fired combined heat and power plants can have overall energy efficiencies of 80 to 90% versus the 30% efficiencies of nuclear reactors.
- In particular, Ontario should solicit bids for renewable electricity from Quebec, Labrador and Manitoba. In this context, it is important to remember that companies such as Hydro Quebec and Manitoba Hydro can offer base-load supply from an integrated combination of water and wind power.
- None of the supply contracts should permit the suppliers to pass on any of their capital cost overruns to the Government of Ontario or electricity consumers.
- All of the supply contracts should subject the suppliers to significant financial penalties if they fail to deliver their promised supplies.
- All of the suppliers should be fully responsible for all of their waste management and decommissioning costs.

Endnotes

1. According to the Government of Ontario, the annual capacity utilization rates of the re-built and new nuclear reactors will be 90%. Therefore the annual electricity production of 14,000 MW of nuclear capacity would be 110,376,000 MWh (14,000 MW x 8760 hours x 0.90). In 2007 Ontario's total annual electricity demand was 152,000,000 MWh. Ontario Power Authority, Ontario's Integrated Power System Plan: Discussion Paper 7: Integrating the Elements – A Preliminary Plan, (November 15, 2006), page 81; and Independent Electricity System Operator, News Release, "IESO Releases 2007 Generation and Consumption Figures", (January 10, 2008).
2. Ontario's total electricity demand fell from 157,000,000 MWh in 2005 to 152,000,000 MWh in 2007. See www.ieso.ca.
3. Ontario Ministry of Energy, News Release, "Ontario Takes Next Step To Ensure Clean, Affordable And Reliable Energy Supply For Generations To Come", (March 7, 2008).

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