MegaWHAT.ca Public Meeting

Holland Landing Community Centre

Speaking Notes for Jack Gibbons

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Ontario's Energy Minister, Gerry Phillips, wants to build a very big and very energy inefficient gas-fired power plant in NYR to meet our electricity needs on very hot summer days when our air-conditioners are running full out. This proposal doesn't make sense since there are much lower cost and much cleaner options to keep our lights on.

To understand why Gerry Phillips proposal doesn't make sense it is necessary to review a few key facts about electricity consumption in NYR. These key facts are illustrated on our chart which plots the demand for electricity in NYR during each hour of 2007.

1. In the summer the demand for electricity spikes on 6 to 12 days when our air conditioners are running full out;
2. On these days the peak hourly demands for electricity are up to 75% higher than NYR's average hourly demand for electricity, namely, 200 MW;
3. These summer needle peaks last for only a few hours at a time;
4. Today, NYR's total firm electricity supply capacity is 380 MW which is greater than our peak demand for electricity and almost *double* our average annual hourly demand for electricity; and
5. When the Holland Junction Transformer Station comes into service next year our total firm electricity supply capacity will rise to 420 MW.

In short for about 100 hours a year when the demand for electricity spikes we have a tight supply situation. But for the remaining 99% of the year we have much more electricity supply than we need. So in the short run, we need a strategy to meet our electricity needs on these very hot summer days. There are basically two options. The lowest cost and cleanest option is to clip these needle peaks by investing in energy conservation and demand management. The second option is to build a new power plant to meet these spikes in demand.

Our Energy Minister Gerry Phillips has chosen the 2nd option. He has directed the Ontario Power Authority or OPA to contract with a private sector developer to build a 350 to 400 MW gas-fired power plant in NYR Let's review a few key facts about Gerry Phillips' proposed peaker plant.

1. It will cost at least a quarter of a billion dollars to build;
2. It will have an energy efficiency of only 36%. That is, 64% of its gas consumption will be simply wasted. To put this number in context, it is illegal to buy a residential gas furnace that has an energy efficiency of less than 80%. If the

Government won't allow you to buy a gas furnace that is less than 80% efficient, why should it be allowed to build a gas-fired power plant that is only 36% efficient? And given that natural gas prices are going through the roof, why does Gerry Phillips think it makes sense to invest a quarter of a billion dollars in a power plant which is only 36% efficient?

3. Finally, since the power plant is being built to meet the spikes in electricity demand which will occur on a few very hot summer days, it will have a very, very low capacity utilization rate. According to the OPA, its capacity utilization rate during its first four years of operation will be less than 2%. It simply does not make sense to spend a quarter of billion dollars to build a power plant which will be idle for more than 98% of the year.

In short, Gerry Phillips is proposing an out of date 1950s style solution to meet NYR's electricity needs in the 21st century. The good news is that there are much lower cost and much cleaner options to meet our electricity needs.

The OCAA is proposing a 4 step solution to meet NYR's electricity needs. In the short run, we need a strategy to clip the needle peaks that occur on very hot summer days. In the medium and long term we need a strategy to keep the lights on as our population and economy continue to grow.

So let me start by giving you a few examples how we can reduce these needle peaks.

Every home and small business in Holland Landing that has a central air conditioner should sign up for Hydro One's great *peaksaver* programme. This programme raises the temperature on your thermostat by up to 2 degrees Celsius for up to 4 hours on the hottest summer days. But never on weekends or holidays. You won't even notice the difference but it will help reduce the spike in electricity demand.

The *peaksaver* programme is targeted at small volume consumers. For large volume customers the OPA and Rodan Energy have developed a demand response programme which pays large volume customers to shift some of their electricity consumption from peak to off peak hours on hot summer days. This programme has been very successful. But it needs to be dramatically expanded to help reduce the needle peaks on hot summer days.

If you don't already have smart meters you will be getting one soon. And smart meters will be combined with time of use pricing which will encourage consumers to shift some of their consumption from peak to off-peak periods. They have the potential to dramatically reduce our needle peaks. For example, last year Newmarket Hydro did a pilot project to test the impact of smart meters and time of use rates. The results were fantastic. The residential customers who participated in this pilot project reduced their peak demands by 31%.

In summary, the good news is that all of these conservation programmes are working. Last year, NYR's peak day electricity demand fell. And the OPA is forecasting that it

will fall by an additional 2% this year. To put, this number in context, it is important to note that on a province-wide basis demand is forecast to fall by only 1% this summer. So NYR's peak day demand is falling at double the provincial rate.

So to deal with our short term needs, we are recommending energy conservation and demand management programmes to clip the needle peaks. The remaining steps of our 4 step plan are to meet NYR's electricity needs over the next 5 to 50 years as our population and economy continue to grow.

The second step is to reduce our average hourly electricity consumption. As our chart shows, NYR average hourly electricity consumption is approximately 200 MW. To reduce our average electricity consumption we must increase our energy efficiency. Therefore the OPA should provide financial incentives to consumers to purchase EnergyStar high-efficiency appliances, equipment and homes. We also need incentives to encourage consumers to switch to cleaner or more efficient options, e.g., hybrid solar/electric water heaters or gas ranges instead of electric ranges.

Once again the good news is that, on a province wide basis, the OPA is forecasting that its conservation programmes will reduce Ontario's average hourly electricity consumption during each and every year between now and 2015. That is, the OPA is forecasting that in 2015 Ontario's total electricity consumption will be lower than it is today. In short, the electricity world is changing profoundly and NYR can and should be a leader in our transformation to a more energy efficient future.

However, we agree with the OPA that we also need new supply. Therefore the 3rd step of our 4 step plan is for the OPA to procure more renewable electricity supply in NYR. And there are a number of renewable options in NYR including solar, biomass and wind.

Our 4th and final step is to use natural gas as efficiently as possible. In NYR virtually every building uses natural gas for just one service – heating. It is much more efficient to use natural gas to simultaneously produce two services, namely, heat and power. Combined heat and power plants can have overall energy efficiencies of 80 to 90%. Therefore the OPA should pay consumers to install small-scale, combined heat and power plants in apartment buildings, condominiums, municipal buildings, hospitals, shopping centres, office buildings and factories. Even better, tri-generation uses natural gas to produce three services: electricity, heating and cooling.

In short, as NYR's population and economy continue to grow we can meet our electricity needs by a balanced combination of energy conservation and demand management, renewable energy and small-scale, high-efficiency combined heat and power or tri-generation plants.

So why are the OPA and the big power developers telling us that we can't do this? Why are they telling us that we have only two bad options, namely a new high-voltage transmission line or a very large and very inefficient power plant?

Let me suggest some reasons. First, the self interest of the big gas power developers is clear they want a twenty year contract with the OPA to build a big power plant. Conservation is clearly not in their self-interest.

But what about the OPA? It is a non-profit agency of the Government of Ontario. Why does it say that we can only keep the lights on by building a big, inefficient power plant or a new high-voltage transmission line?

Let me suggest three reasons.

First, the OPA's assertion reflects what was the conventional wisdom in the 1950s. And unfortunately the OPA's CEO still has a 1950s mind set. He still believes that large scale, energy inefficient power plants are the lowest cost option to meet our electricity needs. The good news is that he is retiring at the end of the month.

Second, it is important to remember that Gerry Phillips has directed the OPA to build a 350 to 400 MW inefficient power plant in NYR. Therefore all the OPA employees have to publicly support this political directive whether they agree with it or not.

Third, signing one contract with one big power developer is the easy way out for the OPA bureaucrats. Once they sign the contract with the big gas developer, they never have to think about NYR again. While our 4 step proposal will provide NYR with lower cost and cleaner power, it will require the OPA bureaucrats to work harder.