

Rapid Response Power Generation In Northern York Region – The Facts

What is it?

- A gas-fired, simple cycle, electricity generating facility.
- Capable of generating 350 megawatts (MW) of electricity almost at the flip of switch.

How will it operate?

- Fueled by Natural Gas.
- Operating about 900 hours per year during time of peak demand – typically in summer months.
- Power generation can be scaled up or down to meet the immediate needs of the region and Ontario's electricity grid.

Why Natural Gas?

- Natural Gas is key component of Ontario's plan to eliminate coal-fired generation.
- Natural Gas is one of the cleanest fossil fuels for power generation.
- Compared with other fossil fuels – such as coal, Natural Gas emits much lower quantities of carbon dioxide, sulphur oxides and particulate matter.

What about a series of smaller plants, rather than one big one?

- The land acquisition and regulatory approval costs of building as well as operating one plant are less than operating a series of smaller ones.
- Part of the OPA's mandate is to provide not only the best technical and environmental solutions – as well as solutions that provide the best value for all Ontario ratepayers.

Why so expensive a plant that will be used so little?

- While the capital costs may seem large, when one compares this to the costs of the alternatives over the life of this facility, the cost is quite reasonable.

Shouldn't renewable energy sources be considered, like wind or solar?

- These energy sources aren't sufficiently reliable to meet the specific demand for rapid response generation. Wind doesn't tend to blow hard enough on hot summer days and solar fields require a great deal of space.
- The land required to create this magnitude of wind power is also significant and costly. To produce the power needed to meet the Region's long-term peak demands would require about 220 turbines (generating 1.5 MW each) and many thousand acres of land.

How tall will the exhaust stacks be?

- The exhaust stacks will likely be about 100' tall or less, much lower than the height of a typical transmission line.
- By comparison, the stacks will be shorter than most of the commercial grain elevators or silos one sees in the area (up to 120' feet and thinner than a large 80' grain bin).

What about the gases coming from the stacks?

- Stack emissions are regulated by the Ministry of the Environment.
- Compared with other fossil fuels such as coal, natural gas emits much lower quantities of nitrogen oxides, sulphur oxide and particulate matter.
- Using natural gas combustion rather than coal reduces carbon dioxide and related emissions by up to 60% on a megawatt hour basis – making all the air we breathe cleaner.

Why was a peaking plant chosen over a co-generation facility?

- A co-generation facility operates all the time – using much more Natural Gas and generally further emissions.

How big will it be?

A 350 MW facility footprint requires between one and two hectares – the equivalent of three or four soccer fields or roughly the size of a box store parking lot.

Why 350 MW, couldn't we do with a much smaller facility?

- Today, the peak demand needs of the area are about 30MW – however that will only grow in the future. The OPA must plan for reliability now as well as needs that are 20 years down the road.
- The area's power needs have grown consistently at about 3% per year – despite many weather variations, conservation and demand management successes. The Government of Ontario has designated the area a Growth Centre – requiring that the power infrastructure is ready to power up on demand.
- This facility will serve to help balance load and supply for Northern York Region as well as for all of Ontario, as part of the OPA's mandate that the province's power system be reliable and balanced.

- A rapid response plant as proposed supports the use of wind and solar power across Ontario's electricity grid. When winds are low or skies not sunny, this gas-fired plant will help meet the province's electricity needs.

Can't we just use less electricity, rather than generating more?

The people of Northern York Region can be proud of their efforts to reduce their consumption of electricity. The results have been impressive. A 30 MW demand reduction target for the community is well in hand and collaborative efforts to surpass the target are continuing. Region residents are working to keep count of every kilowatt too.

Unfortunately, reducing peak energy use cannot be the only answer. The only two options remaining are new transmission lines or new power generation from within the Region. In 2005, the people of the Region made it clear – their choice was new generation.

Won't this facility use a lot of water?

- Actually, very little or no water will be used. The turbines are cooled by air, not water.

Who is paying for this facility?

- The electricity generating facility, which will be a system resource, will benefit all Ontario electricity consumers, and its costs will be recovered through charges on customers' electricity bills.

For Further Information go to:

http://www.powerauthority.on.ca/Page.asp?PageID=1224&SiteNodeID=383&BL_ExpandID

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