

Planning for “Take 2”

By Graham Sounders

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It is a matter of timing. Premier McGuinty has hinted for a while that his government will choose construction of new nuclear reactors as the main solution to Ontario’s electricity shortages. He does not say “southern” Ontario, though that is what he means.

The first round of nuclear power created a relatively reliable power source for the “South”, with spin-offs of employment and industrial expansion. But it was a financial disaster and in spite of huge subsidies, i.e. tax revenues, granted by Federal and provincial governments. The resulting debt is now addressed on electricity bills throughout the province.

The “North” did not benefit from the first round, but people and industry across northern Ontario in effect now subsidise this earlier experiment. This is one of the arguments in the campaign to have regional pricing in the “West” grid.

The premier admitted that nuclear power has its problems, although any day now he is likely to accept the Ontario Power Authority, not exactly an impartial think tank, recommendation that Ontario spend \$40 billion and build 12 new nuclear reactors.

Almost certainly, the 20-year anniversary of the Chernobyl reactor explosion (April 26, 1986) delayed this announcement.

I am not going to fault Energy Minister Donna Cansfield’s announcements of new conservation programs. However, it would be naive to ignore the padding and distancing it provides from recent stories of ongoing problems related to Chernobyl.

Phrases like “ nuclear power provides nearly 50 per cent of Ontario’s electricity” and “ will provide clean, cheap energy for the future” are destined to be in the script. (No, I have not had any offers to act as a speechwriter.)

First, the percentage is currently around 40, and “clean” and “cheap” require closer examination.

One aspect of “clean” is the stated benefit that no greenhouse gases (GHG) are produced. Increases in extreme weather and predicted scenarios of climate change have led some policy makers and environmentalists to clutch at the nuclear option.

James Lovelock wrote of a symbiotic bond between life and environment in the *Gaia Hypothesis* about 30 years ago. His conditional optimism of earlier decades has been replaced by *The Revenge of Gaia*, published earlier this year.

Lovelock is now gloomy about the future of humanity because of climate change and related problems. He has become a strong advocate of nuclear power. In his view, it reduces the increasing chances of catastrophe.

Proponents of any energy source tend to focus on the final stages of production. The reactor stage avoids GHGs and most air quality problems when compared to present power generation from coal and other fossil fuels. However, the nuclear fuel cycle is, by far, the most complex of energy cycles.

Earlier stages include uranium mining, milling for ore, transportation from Saskatchewan to refineries in Ontario, fabrication of fuel bundles and transportation to reactors. All stages produce GHGs

in significant amounts. Add to this the GHGs that construction of 12 reactors, at a minimum of 10 years each, will add.

Any benefit/liability comparison of energy options has to include all stages of the cycle.

That brings us to “cheap”.

The earlier stages, as detailed above, are numerous and expensive. Some of the historical waste problems have not been fully costed or paid for.

The reactor stage has been the most expensive historically. If things go well, it will take about \$4,000 to generate 1 kilowatt hour of installed electricity generation - enough to plug in a toaster. Typically, major cost overruns have resulted – hence the debt we deal with now.

Is the stated \$40 billion for new reactors believable? Who knows – though, in any case, unbiased assessment and public consultation are essential before reviving nuclear power in Ontario. Costs of Darlington, the last reactors built in Ontario, were approximately three times the early estimates.

The Ontario Government has released “trial balloons” and introduced conservation and “alternative” programs. Summer and likely electricity shortages prompt an announcement. It is best to act before crisis.

There is another “problem” for Premier McGuinty, one of several Achilles heels for nuclear power. Part of the nuclear cycle is not in place – the disposal of high level waste.

Earlier nuclear expansion was criticised because nuclear waste disposal was first ignored and then not solved satisfactorily. Major technical problems and social/political opposition were part of a process that ended planning for new reactor construction in Europe and North America two decades ago.

The current cost estimate of the Nuclear Waste Management Organisation’s plan for storing nuclear waste in Canada is \$50 billion.

Some readers will recall attempts, about 25 years ago, to designate the Northwest as the destination of Canadian, possibly international reactor waste.

It will require some serious “spin” to get around this problem in this part of Ontario.

Like James Lovelock and perhaps, Premier McGuinty, I have concerns about future climate change. On Ontario, the nuclear power “solution” would postpone GHG reductions for 15 or 20 years. The reckless economics required could bankrupt the province.