

"Will the lights be on in 2027" - Letter to editor of Canadian Nuclear Society's BULLETIN - 2009 March edition

Re Editorial in the 2008 December edition of BULLETIN, "Replacing Nanticoke: Truth against the wind?" Indeed Minister Smitherman should re-think his plan and he should also give some assurance that it will work to keep the lights on through to 2027. In August of 2007 the Ontario Power Authority (OPA) filed an application for approval of its Integrated Power System Plan (IPSP) and certain procurement processes with the Ontario Energy Board (OEB). The plan was supposed to ensure that Ontario has, what the politicians of the day considered, an appropriate generation mix to take it through the next 20 years of coal phase-out, nuclear refurbishment, and new nuclear build. However the OPA is only responsible for medium to long term planning for new generation and is not responsible for the day to day operation of the province's power grid. This is the responsibility of the Independent Electricity System Operator (IESO). Unfortunately the operating window of the IESO is from current to short term so it cannot really say today how the generation assets it has been given by the OPA are going to fit together 15 or 20 or more years down the road. The IESO tries to give some assurance that the grid will be working up to 18 months ahead by issuing regular outlooks and the IPSP will be updated every three years, which may indicate the level of confidence the OPA has in its plan. The IPSP can be tinkered with only so many times before it falls apart.

Case in point is the government mandated replacement of coal-fired generation by a combination of natural gas-fired generation and wind, and a 14,000 megawatt limit on nuclear. Right now the wind generation is supported by coal and gas and after 2014 by gas since coal will be phased-out. There is far too much reliance on gas. Twenty years from now, or even sooner, gas may not be available because of concerns about post and pre-combustion greenhouse gas emissions, air pollution, high unit energy cost to consumer, dollar cost of carbon, security issues of foreign supplies, high demand for gas from the United States, gas demands of tar sands, declining gas reserves, lost gas legacy to future generations, home heating demands, gas as feedstock to the chemical industry, or, in short, the waste of a premium non-renewable resource just to generate electricity. Eventually gas will have to be treated as a transitional fuel that would be restricted to space heating using high efficiency furnaces or co-gen, to be superseded by nuclear/hydro generation and ground source heat pumps. For more uncertainty, by 2027 there could be significant electric motor vehicle battery charging demands on the grid. Not all this charging demand will occur during the ideal off peak overnight hours, some of it will be added during the day and to the late summer afternoon peak. There may also be climate change affects reducing the hydro-electric supply. Studies conducted for the IESO/OPA to show that wind can be integrated into the Ontario grid would have assumed the continued availability of gas-fired generation. Without gas-fired generation wind would be a hindrance to the reliability of the nuclear/hydro power grid and not a help even if additional nuclear and hydro were available in time to avoid blackouts.

Back in September of 2008 the Minister of Energy and Infrastructure, George Smitherman, requested the OPA to take a look at increasing the amount of renewables, conservation and distributed generation in the IPSP, essentially more wind to a plan already heavy in wind. This means that the OEB, which had geared up to review the IPSP, had to stop work and is now waiting for the OPA to release the revised plan.

So, who has the responsibility for ensuring that Ontario's power grid will be operating reliably 20 years from now? We have Ontario Power Generation, the IESO, the OPA, Hydro One, the Ministry of Energy, and still no assurance that the lights will come on 20 years from now. Remember that the IESO and the OPA are both governed by Boards of Directors appointed by the Minister of Energy, a common mode failure which might explain their enthusiasm for wind. Let us hope that when the OEB (Board members are appointed by cabinet and report to the Legislature through the Minister of Energy) reviews the OPA's plan it will see this IESO/OPA dichotomy and recommend that just one organization be responsible for ensuring that power is available when needed, at any time in the future. Of course it would help this one organization if it did not have to deal with the gas and wind combo that will have been foisted on it by the government, whoops, sorry, I mean by the OPA. The billions being invested in wind, and gas, could be better spent elsewhere.

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