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25 September 2012

Ontario Energy Board
2300 Yonge St., 27th Floor
Toronto, ON
M4P 1E4

Attn: Ms Kirsten Walli
Board Secretary

By electronic filing and e-mail

Dear Ms Walli:

Re: EB-2012-0340 OPG IRM Consult – GEC Submissions

Attached are GEC's comments on this matter.

Sincerely,

David Poch

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EB-2012-0340

Before the Ontario Energy Board

In the matter of a Consultation regarding
Incentive Rate Making Options for
Ontario Power Generation's Prescribed Generation Assets

Comments on behalf of GEC

The Green Energy Coalition (GEC) is comprised of the David Suzuki Foundation, Greenpeace Canada, Sierra Club of Canada and World Wildlife Fund of Canada (WWF-Canada). All of the GEC's member groups are charitable or non-profit organizations active on environmental and energy policy matters.

GEC's interest in this matter is to ensure that OPG and its contractors receive appropriate regulatory incentives that encourage operating efficiency and encourage timely avoidance of ill-conceived capital investment all without discouraging investments or actions that would enhance safety. It is in regard to nuclear generation these concerns are both most acute and most challenging to address in balance.

OPG now proposes to move to multi-year IRM in two steps, first with the Hydraulic division starting in 2015 and then with Nuclear after the Pickering stations are retired and the Darlington station refurbished which suggests a timeline in the mid 2020's at earliest (Bruce refurbishment has significantly exceeded time estimates as have most nuclear capital projects in Ontario and worldwide).

GEC agrees with the conclusion of Power Advisory, OPG and others that the nuclear and hydraulic divisions are significantly different such that distinct regulatory incentives are required for the two asset groups.

The Power Advisory Report commissioned by Board Staff highlights the findings of the earlier ScottMadden benchmarking report which had noted several instances of poor performance at OPG's nuclear plants compared to the benchmarking population they selected, with the poor operating performance of Pickering, especially Pickering A, being top of the list.

Several factors exacerbate the cost inefficiency of Pickering A, including that it is the smallest and oldest Ontario nuclear station and that it has only two of its original four reactors running, which results in common costs being spread over less output. It is in the lowest quartile for five of the six "reliability" metrics in the ScottMadden comparisons among nuclear stations (ScottMadden Phase 2 Report, Figure 2), and is at or near the lowest-performing nuclear stations in categories including Unit Capability Factor, Forced Loss Rate, Chemistry Performance, Corrective Maintenance Backlog, Total Generating Costs and Non-Fuel Generating Costs. However, even the newest OPG station, Darlington, is below average in some comparisons, particularly staffing levels per MW, Elective Maintenance Backlog, Corrective Maintenance Backlog, Non-Fuel Generating Costs. This may be due in part to the CANDU design and in part to OPG management (and the lingering effects of Ontario Hydro management).

The temptation for an economic regulator must be to provide enhanced incentives to reduce outages and outage lengths and lower staffing costs. However, these are precisely the pressures that could have negative safety implications. As Mr. Fitzpatrick's presentation noted, the world's foremost nuclear regulator, the US NRC, in its directive to operators, "stressed" that:

"- certain forms of economic performance incentives may adversely affect the operation of nuclear plants and public health and safety."

An example will illustrate the point. When a CANDU reactor is shut down, it is 'poisoned out' for approximately 36 hours (or longer in some cases, depending upon the shutdown mechanism utilized). Thus an unnecessary shutdown due to a potential safety issue costs the unit at least 0.4% of its potential annual unit capacity factor. A 36 hour shutdown at a single 878 MW Darlington unit, earning at a minimum the regulated payment rate of $51.52/MWh, will cost OPG $1,628,444. Even without any added IRM incentive, an operator faced with the need to make a snap decision to SCRAM the reactor willprobably recognize that his action will cost his employer a minimum of 1.6 million dollars. Certainly, OPG's management and training staff will foresee that cost of an unnecessary SCRAM in designing operator training, biasing procedures toward fewer shut-downs. Adding an IRM incentive for increasing capability factor to the inherent financial incentive, would heighten the cost of each shutdown and layer on the potential embarrassment of missing an explicit regulatory target. All these pressures could increase hesitation in the operator to initiate a shutdown in the face of an ambiguous safety situation. And while the CNSC, the safety regulator, can mandate capital investments to improve safety, the CNSC cannot be at the operator's elbow second-guessing every operating decision in real time.

Similarly, an enhanced incentive to reduce staffing costs cannot but affect morale and potentially the level of expertise available. Mr. Fitzpatrick noted:

"According to the nuclear plant senior management with whom I have worked, Nuclear Performance Standards can have unintended consequences that could affect employee morale and ultimately the retention of qualified experts and proven senior management."

Accordingly, GEC, while having no brief to protect OPG's nuclear revenues, has grave concerns about IRM for nuclear as it could have the unintended consequence of reducing safety margins. Accordingly, GEC submits that research into offsetting safety inducing incentives be considered. For example, an incentive that rewards OPG for lower serious events (as defined by the CNSC requirement on operators to file Serious Event Reports) might be more appropriate than incentives to increase output and reduce staffing.

Considering the poor performance of OPG's nuclear plants on many measures, IRM based on output and cost targets could force the Board to choose between:

- performance targets well below norm, rewarding OPG for performance that is still sub-standard and potentially increasing OPG staff complacency with regard to performance that is good enough to pass the IRM standards but still objectively inadequate, or
- performance targets well above OPG's recent achievements, probably resulting in penalties, poor employee morale, tighter budgetary pressures, and increased reliability and safety problems.

Neither option offers the Board much help in its core responsibility of steering OPG toward better performance and greater accountability. The effort required for IRM would be more usefully expended on greater regulatory oversight.

If the Board does wish to proceed toward a nuclear IRM, several other concerns arise, including the need to improve transparency and the need to enhance incentives for timely capital cost control. It is obvious to all observers that nuclear power, and CANDU technology in particular, have serious problems with capital-cost overruns and timely completion of capital projects. Regulation must address these concerns by avoiding any mechanisms that would lessen visibility and accountability, especially in

the early stages of a project when the political pressure of sunk costs has not yet completely overwhelmed economic logic.

OPG is a publicly owned entity. It is reasonable to assume that the impact on the 'shareholder' of any incentive may be less than the impact such an incentive would offer in the private sector. Accordingly, though perhaps counter-intuitively, public ownership may reduce the value of financial incentives, compared to the importance of transparency and of regular and timely scrutiny.

In past proceedings, all parties anticipated an IPSP hearing that would address the wisdom of major capital planning decisions in the context of the system as a whole. With Bill 75 that is unlikely to occur, and if it does, it will be a narrower and potentially toothless exercise. However, the Board is charged with approving OPG's payments on an ongoing basis and this is analogous to any other rate-making proceeding before the Board. Thus the Board has authority to oversee capital spending and operational budgeting, as they affect the payments. In the absence of an IPSP, the Board can provide guidance to the regulated entity in rate proceedings, both before the fact at the capital budget planning stage and after the fact in prudence reviews. GEC is concerned that any IRM not reduce the frequent and specific scrutiny that OPG's nuclear operating and investment plans should receive, especially prior to major expenditures, when OPG is most likely to be able to change direction at the lowest cost and avoid pursuit of ill-conceived projects. If any utility ever needed frequent close guidance for any of its operations, it is OPG's nuclear division.

In that regard, we were surprised to learn from OPG that it intends to delay coming before the Board for a Payment review in regard to its nuclear division. Given the major planning decisions at hand in regard to all three nuclear stations and in regard to a potential new build, such a delay will only serve to reduce transparency and accountability. GEC submits that the Board should consider calling in OPG for a review of its nuclear division Payments.

All of which is respectfully submitted this 25th day of September, 2012.

David Poch
Counsel to GEC