EB-2016-0152

ONTARIO ENERGY BOARD

Ontario Power Generation Inc. 2017 – 2021 Payment Amounts Application
for OPG's Prescribed Facilities

Submissions on Behalf of the
QUINTE MANUFACTURERS ASSOCIATION

May 29, 2017

1.0 INTRODUCTION

The Quinte Manufacturers Association ("QMA" or "Association") represents over 120 manufacturers employing more that 9,000 people in the greater Bay of Quinte region which includes the cities of Belleville and Quinte West. Another 27,000 jobs in the region are directly or indirectly impacted by these manufacturers. Our mission is help local manufacturing leaders in the Greater Bay of Quinte region improve their capabilities, competitiveness and sustainability.

With manufacturers in the Quinte region consuming more than 200 GWh of electrical energy per year, the escalating cost of electricity across the key components (generation, transmission and distribution) of the electricity market in Ontario are of critical concern to the members of the Association and their ability to maintain a competitive advantage in the global market. The QMA believes in a strong and healthy manufacturing sector that benefits our communities directly and contributes to continuing employment and business growth opportunities.

The Quinte Manufacturers Association makes the following submissions in response to Ontario Power Generation Inc's., 2017-2021 Payment Amounts Application ("Application") for its Prescribed Facilities.

This is the first proceeding before the Ontario Energy Board ("OEB" or "Board") that the QMA has participated in and has appreciated the opportunity to do so. Participation in the proceeding has allowed the QMA to review the very large amount of written and oral evidence presented and gain a much better understanding of the entire Darlington Refurbishment Program ("DRP"), the Pickering Extended Operations plan and the rate setting processes for OPG's hydroelectric installations and the nuclear generation business.

Overall, the QMA agrees with all the evidence and testimony presented during the proceeding that the DRP is a challenging, complex, capital intensive "mega-program" unlike any other. The

QMA appreciates the significant amount of work that OPG undertook in preparing its application and the work of all parties to the proceeding in preparing evidence, witness testimony and submissions.

This submission reflects areas of concern to the Association based on evidence presented and testimony given. The QMA offers comments on those issues which it hopes will be helpful to the Board in its deliberations and does not intend address all the issues set out in the Board's approved Issues List for this proceeding.

The QMA participated (in-person and on-line) in the oral hearing which began on February 27, 2017 and was completed on April 13, 2017. Prior to the commencement of the oral hearing parties met to determine if certain issues from the Board's approved Issues List could be settled. The QMA participated in this process. On January 30, 2017, the parties filed a partial settlement agreement with the Board which approved it on March 20, 2017.

2.0 OVERVIEW

The Ontario government has been clear that it is committed to a nuclear energy future for the province and Ontario Regulation 53/05 ("O. Reg. 53/05") made under the *Ontario Energy Board Act, 1998*, sets that direction for the DRP and allows OPG to recover all of its prudently incurred costs from Ontario's electricity ratepayers including QMA members. The QMA recognizes the fact that OPG is a very large multi-billion dollar Ontario business corporation owned by the government of Ontario and is regulated by the OEB, an agency of the government.

The QMA also understands that OPG does not participate in competitive international markets the same way as Association members do, and that OPG is afforded certain privileges and protections as a provincial crown corporation under O. Reg. 53/05.

Unlike OPG, for QMA members, there is no regulatory safety net such as O. Reg 53/05 that would allow them to recover their prudently incurred costs from customers. Ontario's rising electricity costs continue to be a significant cause for concern to QMA members. Given the size and complexity of the DRP, members fear that if the deliverables for the DRP as outlined in OPG's Application are not realized (in whole or in part) against the proposed budget and implementation schedule, the risk of additional significant costs being passed on to manufacturers will become increasingly unacceptable even if DRP costs are prudently incurred. The potential for OPG to apply to the OEB to recover cost overruns (beyond allocated contingencies) if the DRP drifts off budget and off schedule over time is worrisome and may impede the competitive position of our members through unavoidable incremental electricity charges that impact each unit cost of production.

Nevertheless, Association members understand the cost challenges they currently face in the Ontario electricity market and how its operation impacts their business operations on a daily basis. To compete successfully and be profitable, QMA members operate with strong corporate governance oversight and very tight levels of operational and management control.

These have become essential requirements in managing and controlling electricity costs in the most efficient and effective ways possible at the manufacturing level.

The business planning cycles for our members are fluid and evolve quickly. They work on tight budgets and within tight production schedules to be as a competitive and successful as possible and when this happens, our communities also benefit. Consequently, accountability to corporate shareholders is robust. The QMA submits that while OPG is not in the same "competitive" position as our members, but it must be held to similar rigorous senior management control, and oversight standards by its Board of Directors that will satisfy its shareholder – the government and citizens of Ontario, and ratepayers. [1]

Of particular interest to the Association in this proceeding is understanding how the DRP has been developed over the past 10 years and how OPG is going to be able to control its costs, initially with the Unit 2 refurbishment and then the refurbishment of the remaining Darlington units. There are billions of dollars being directed to the DRP and as a result, the QMA submits that the onus is squarely placed on OPG senior management and the OPG's Board of Directors to ensure the DRP is successfully delivered as determined by the results of this hearing. OPG's Board of Directors must remain diligent through their oversight of senior management's responsibilities and accountabilities and delivering value to ratepayers. The QMA is encouraged by the commitment of OPG's President and CEO, Mr. Jeffrey Lyash made during his testimony that he and his senior leadership team are committed to driving a successful DRP.[2] He stated that the DRP is a "destiny" project not only for OPG, but the nuclear industry in general and that he is accountable if the project "goes off the rails".[3]

[1] TR Vol. 1, pg. 38
[2] TR Vol. 1, pg. 96-97
[3] TR Vol. 1, pg. 38-39

3.0 DRP OVERVIEW and EXECUTION

The QMA has been concerned from the outset of this proceeding that given the sheer scope and size of the DRP, the risk of OPG not being able to meet its in-service dates and costs as presented in its Application is high. This is a 10 year 12.8 billion dollar project beginning with the initial investment in refurbishment of Unit 2 at Darlington. If the Darlington Unit 2 refurbishment work, which in our view is the "test" for the future success of the entire DRP is unable to come in on budget and on time as OPG plans, it will not bode well for the future success of the remainder of the planned DRP work. Mr. Lyash indicated that the degree of project focus and control that OPG has applied or would apply to the Unit 2 work to ensure it comes in on budget.[4]

It is quite clear from the evidence and testimony examined over the course of the proceeding that the DRP is a one-of-a-kind project and that OPG senior executives believe that the project will come in on schedule and on budget. OPG is using the owner (OPG) led multi-prime contractor strategy which requires a strong and experienced management team to be successful which Schiff Harden confirmed is necessary.[5] This is discussed further below.

OPG's Senior Vice President of Nuclear Projects, Mr. Reiner stated that OPG looked extensively at prior refurbishments and mega- projects around the world as part of its advanced planning work to learn from those experiences and what drove cost over-runs.[6] If the execution of the DRP is not done properly Ontario ratepayers and taxpayers will likely be at risk to pay for cost over-runs beyond potential contingency reserves and suffer further rate increases.

The OPG Board of Directors have oversight of the company, approve the budget and the release of funds (release points) for the DRP which the QMA agrees is appropriate.[7] The OPG senior leadership team who are executing the DRP work have a significant responsibility to

[4] TR Vol. 1, pg. 41
[5] Board Staff Submission, May 19, 2017 pg. 41
[6] TR Vol. 1, pg. 41-43
[7] TR Vol. 1, pg. 48

ensure the DRP is delivered on schedule and within budget the budget parameters laid-out in OPG's evidence and application as amended.[8]

Delivering the DRP, and Unit 2 in particular, on budget and on schedule was a key message delivered by OPG President and CEO, and reinforced by OPG senior management throughout the oral hearing.[9] Board Staff's expert Schiff Hardin confirmed that OPG was being consistent with industry standards and best practice of the size and complexity of the DRP in the following areas:[10]

- risk assessment,
- project controls,
- program and project management staffing plans,
- written management policies and procedures, and
- contracting strategy, contract terms and contractual risk allocation.

The QMA agrees with this approach to business planning – committing to executing clearly defined budgets and schedules that provide an acceptable level of confidence to shareholders and customers over the life of programs or projects.

Using Monte Carlo simulations, OPG has set a "P90" statistical confidence level that the DRP will be delivered on or lower than budget. This confidence level reduces a significant amount of cost overrun risk although there are currently few projects planned at the P90 level because it depends on the magnitude and complexity of the project.[11] There was significant discussion during the oral portion of the hearing about whether a "P50" (average) confidence may be more appropriate for the DRP given its risk profile. Board Staff's expert Schiff Harden confirmed that the P90 confidence level was the new normal for a mega-project the size, complexity and potential unknown future risks of the DRP. Dr. Galloway of Pegasus Global on

[8] TR Vol. 1, pg. 58-59
[9] TR Vol. 1, pg. 75-76
[10] TR Vol. 7, pg. 12
[11] TR Vol 6, pg. 39

behalf of OPG was of a similar opinion.[12] Testimony was also presented that most mega-projects and mega-programs have off schedule and over budget because they different from "normal" projects.[13]

The QMA remains concerned that there may be over-confidence and over-optimism on the part of OPG senior leadership in hitting budget and schedule. Hence the potential for managing uncertainty must rest with OPG's Board, the senior leadership team and the Ontario Energy Board oversight. Pegasus Global (OPG's expert) and OEB staff's expert Schiff Harden said that the P90 is the industry standard for mega-projects and that gives a high level of confidence that OPG can achieve its $12.8B including associated contingencies estimate for the DRP. Schiff Hardin also indicated that mega-projects of this type have a tendency to over budget and off schedule and the expert from Concentric Energy Advisors agreed.[14] Mr. Lyash also indicated that mega-projects, by their nature have a high risk of going over budget. However, he indicated his confidence that with the time and effort OPG has invested in: determining best practices; lessons learned (e.g., Point Lepreau, Wolseong, South Korea, Vogtle, Bellafonte, etc.); developing management systems including active monitoring by project control committees; and working closely with the Board of Directors, the DRP will be different than other mega-projects and be successful.

It is clear from OPG's evidence and testimony that a high level of detailed planning for the DRP that has been undertaken since 2006 that cost and scheduling estimates should become as accurate as possible under a P90 confidence level. Mr. Lyash was clear on the importance of the P90 level to the DRP work as an industry best practice.[15] He also stated that the planning that has gone into the DRP is the most robust planning he has ever seen in a project of this type and OPG is prepared.[16] As noted above, OPG's DRP organizational structure and contracting

[12] TR Vol. 1, pg. 82-84
[13] TR Vol. 7, pg. 13
[14] TR Vol. 18, pg. 58
[15] TR Vol. 2, pg. 13
[16] TR Vol. 2, pg. 11

framework is based on the multi-prime model contractor model. This provides for project focused management teams responsible for the DRP work bundles and attached to them are the support work groups to undertake the work.

The QMA recognizes that costs cannot always be predicted accurately and uncertainty increases the further out project planning goes. The evidence shows that there are a wide range of inputs and risk variables that can impact costs, but the QMA believes that for the Unit 2 upgrade, OPG has developed and taken the internal steps necessary (e.g., external reporting to the Darlington Refurbishment Committee, etc.) to constantly inform all levels of approval and implementation to improve the chance of reaching budget and scheduling targets. Other measures OPG has incorporated include active project execution management, internal incentives, reporting procedures to stakeholders and independent program oversight.

Importantly, Mr. Lyash made it clear in his testimony that he is well aware of the concern of electricity costs to consumers.

4.0 CAPITAL STRUCTURE and COST of CAPITAL

Corporate debt levels, the costs of borrowing and the return on equity are normal business concerns of QMA members and key components of business viability. Since OPG is a provincial crown corporation, the QMA views OPG's debt risk to be "protected" by the province as a guarantor of its debt and therefore, it should be viewed to be "less risky" than private corporations. The OEB provides the necessary regulatory oversight of OPG and its ability to recover its costs as required by O. Reg 53/05 and it has established a track record in determining how OPG's capital structure should be established based on the range of business risks it is subject to.[17]

The QMA recognizes the value in comparing OPG's proposed debt-to-equity ratio against peer utilities to establish a reasonable indication of its equity/liability relationship as shown by the

[17] Board Staff Submission, May 19, 2017, Pg. 4

industry experts in this proceeding. It is a useful practice to compare various companies within the same industry even though OPG is, according to the experts, unique amongst peer companies in terms of generation fleet size and technology mix and therefor it is proper to compare and consider different debt/equity ratios.

The QMA is not expert at determining what the proper debt-to-equity ratio should be for OPG in this matter, however, does recognize and agrees with OPG that it would incur additional financial and business risk due to the size, complexity and cost of the DRP. As alluded to above and in production terms, QMA members face a major risk concerning the future cost of electricity. QMA members can view their "investment" in OPG as business taxpayers in Ontario, but in reality this is secondary to their position as electricity ratepayers. OPG's equity has been contributed by ratepayers who are also taxpayers and if anything goes wrong with the DRP, for example, they remain at risk for the debt.

The QMA was initially concerned that the utility peer comparisons (primarily U.S. utilities) that the consulting experts were using to benchmark OPG against would not accurately reflect Canadian utility experience and therefore, not be a good measure. However, the QMA found the evidence and particularly the oral testimony of OPG's expert consultants Concentric Energy Advisors and Board Staff's expert consultants, the Brattle Group to be particularly helpful. In addition, the bond rating agencies that track OPG's performance (DBRS and S&P) tend to look at OPG in comparison to the rating of the Province of Ontario.[18] The QMA agrees with Board staffs' view that a 47% equity component would be appropriate for OPG at this time.[19]

5.0 CAPACITY REFURBISHMENT VARIANCE ACCOUNT ("CRVA")

The QMA understands that the CRVA will track DRP related differences between actual and forecast amounts of all "in-service" costs, including labour, and at a future date the OEB will, upon a prudence review, determine the disposition of the differences to ratepayers. The QMA

[18] Board Staff Submission, May 19, 2017, pg. 10
[19] Board Staff Submission, May 19, 2017, pg. 5

recognizes the fact that OPG is expecting to file an application with the Board in the future to dispose of any CRVA balances as stated in its evidence. Depending on the amounts recorded in the CRVA, disposition of any balances has the potential to increase rates to Association members based on the Board's determination on the matter. The potential rate impact to QMA members is unknown at this point. The QMA supports Board staff's position on the treatment of CRVA inputs and outputs to ensure any incremental DRP related spending was prudently incurred.[20]

6.0 PICKERING EXTENDED OPERATIONS

The QMA is also concerned with the added costs of the Pickering Extended Operations ("PEO") beginning in 2021 in support of the DRP. The Association had previously understood, prior to OPG's Application, that the Ontario government (OPG) planned to retire the Pickering generating station, and not extend its working life to 2022 – 2024. Because the Ontario electricity system is in flux as a result of the discontinuance of coal-fired generation and the refurbishment of the Darlington units, the province's long term energy plan, among other complicating factors, including the re-licensing risk of the Pickering units by the Canadian Nuclear Safety Commission, the testimony provided by Mr. Pietrewicz of the Independent Electricity Market Operator was very helpful to the QMA.[21] He clarified the demand forecast for generation and related system planning issues impacting the Ontario electricity market going forward into the 2020's and established further rationale (in support of the Application) for extending operations at the Pickering generating station.

The QMA is supportive of Board Staff's submission on this matter in respect of the OEB approving the enabling costs for the PEO and defer any restoration costs until the re-licensing decision for the Pickering units is made.[22]

[20] Board Staff Submission pg. 43-55
[21] TR Vol 8, pg. 85-98
[22] Board Staff Submission pg. 88-89

7.0 PAYMENT AMOUNTS

Because of the nature and complexity of the DRP, the QMA is of the opinion that that the Board (as the regulator) establish a form of regular public reporting on DRP spending (in particular Unit 2 refurbishment and related site work) to track expenditures that could trigger cost recovery from ratepayers. The QMA supports Board staff's views on this matter as indicated in its submission – a detailed component by component prudence review as per Board staff's "minimum level of detail" tables 13 and 14 of their submission.[23] The QMA is of the view that this type of monitoring will provide a level of confidence for Association ratepayers that the regulator is keeping a watchful eye on the DRP work (OPGs performance) and prudence exercised by OPG and be able to take any steps necessary to protect the interest of ratepayers and the broader public interest. This would be done by OPG prior to and leading up to the filing of an application to dispose CVRA balances. This helps provide assurance to ratepayers of the commitment made by OPG's senior management team and Board of Directors to bring the DRP in on budget and on schedule.

8.0 MID-TERM REVIEW

The QMA sees value in OPG's proposal for a mid-term review of its production forecast risk and recognizes that the most significant level of risk would rest with the DRP and PEO. The QMA sees this an appropriate "check point" and supports Board staff in their submission that a *"…mid-term review should only consider matters related to the DRP…"*[24] The five production forecast scenarios prepared by staff in their submission suggests a risk level that the occurrence of any one or all would directly impact DRP and PEO that would warrant a review by the OEB.[25]

[23] Board Staff Submission, May 19, 2017, pg. 56-59
[24] Board Staff Submission, May 19, 2017, pg. 172
[25] Board Staff Submission, May 19, 2017, pg. 172

9.0 PAYMENT AMOUNT SMOOTHING

From a business planning perspective, the general concept of rate smoothing gives some sense of certainty in terms of electricity rates going forward. However, recovering the costs of the of the DRP by delaying rate impacts for the DRP into the future causes a business planning problem for QMA members and the Concentric expert identified the concern:[26]

> *"And what they [OPG] are doing is taking the rate impacts of the Darlington project and smoothing them over a longer period, so that they can lower the impact to rates on the front end over the rate setting period included, but eventually they'll have to be higher at the back end, post this rate setting period, in order to fully account for the project."*
>
> *"But the overall rate impacts are being smoothed over time, so as to tilt the rates to make them lower today than they will be in the future."*

The challenge for QMA members is the reality of ever increasing rates. The QMA supports Board staff's analysis of OPG's payment amount smoothing proposal and agrees that the Board consider staff's alternative smoothing proposal as discussed in their submission dated May 19, 2017. [27]

10.0 IMPLEMENTATION

The QMA does not oppose the effective date for the new nuclear payment amounts beginning January 1, 2017 and hydroelectric amounts on the same date and recognizes OPG's current payment amounts were made interim on December 8, 2016 pending the Boards decision in this proceeding.

11.0 CONCLUSIONS

This was a very large and complex proceeding with a substantial amount of evidence, interrogatories and testimony to review and digest. As a result of this proceeding, the QMA

[26] TR Vol. 18 pg. 59
[27] Board Staff Submission, May 19, 2017, pg. 178

understands that the DRP is for all intents and purposes a very significant $12.8B mega-program of OPG backed by the government of Ontario and managed by public employees. All ratepayers and taxpayers in Ontario have "ownership" in the DRP. OPG's senior management team has made a commitment to bring the DRP in on budget and on schedule.

The QMA appreciates Board staff's helpful review and analysis of OPG's application and adopts the comments of Board staff in respect of the issues in this proceeding.

12.0 REASONABLY INCURRED COSTS

The QMA submits that its participation in this proceeding has been focused and responsible and requests an award of costs in the amount of 100% of its reasonably-incurred fees and disbursements.

ALL OF WHICH IS RESPECTFULLY SUBMITTED